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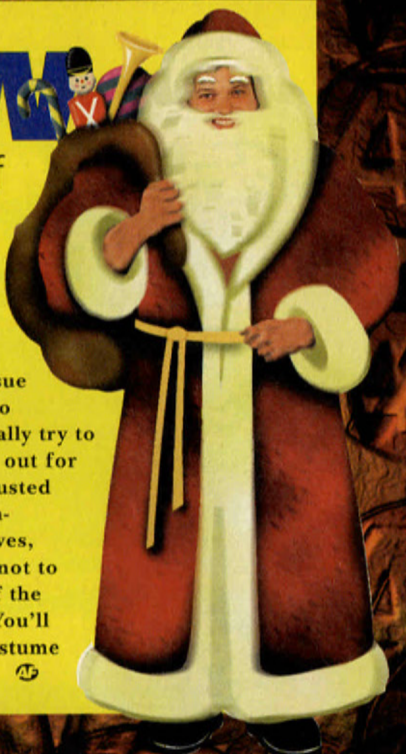
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Month In View



It's the season for miracles – new Amigas, and the arrival of Power UP! **Nick Veitch** even made the tea once…

Power Up! Yes, it is true, the long awaited and even longer ago advertised Power Up board is here. You can buy them. Now! In the shops! And we have a full review. Although the PowerUp! board has been in development for some time, there isn't an awful lot of software we could test with it apart from *Personal Paint*. Hopefully future issues will be full of new software which takes full advantage of this impressive bit of kit.

It probably won't escape your notice for long that this issue of Amiga Format is full of little crackers, and I don't mean that figuratively. There are loads of pages with little cracker designs at the bottom of them, each of which contains one of our special Christmas competitions. Some of the competitions are for so many prizes that you are virtually guaranteed to win, simply by sending a postcard to the relevant address. We have over £5000 worth of prizes, and the closing date has been specially set to allow overseas readers to enter too. So look out for the special crackers, and get writing those postcards.

There is so much else in this issue that I'm not even going to attempt to cover it all. No, really, I know I usually try to cram it all in here, but you can find out for yourself this month. I'm quite exhausted after doing all those reviews of scan-doublers, CD-ROM re-writeable drives, joysticks, mice, accelerator cards – not to mention doing a complete review of the year. I've done more than enough. You'll be expecting me to put on a silly costume and give you all a present next.

St. Nick Veitch
Editor



POWER UP!
The Cyberstorm PPC accelerator is here at last. But just how quick is it? And what software can you run on it? And is it worth it? And...



UROPA 2
No, you didn't miss a Uropa 1, but months of development seem to have paid off for this game. Andy Smith gives you all the details inside.



LS-120
It's no bigger than a floppy and stores 120Mb. It's a miracle...



ALADDIN 4D
Extensively previewed, we all know that *Aladdin* can deliver when it comes to features, but can it compete in the ease-of-use stakes?



VIPER 530
A500s are not left out in the cold this Christmas, thanks to this little wonder.

AMIGA FORMAT Contents

ISSUE 105 CHRISTMAS 1997



AMIGA FORMAT CHRISTMAS CRACKERS

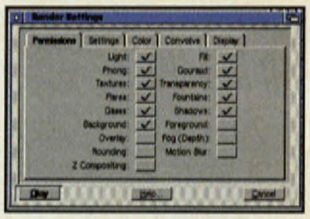
Crackers? We must be. We've donned our Santa suits and now we're giving away loads of top free gifts. All you have to do is send a postcard to the addresses shown in our cracker pics to stand a chance of winning. Good luck!

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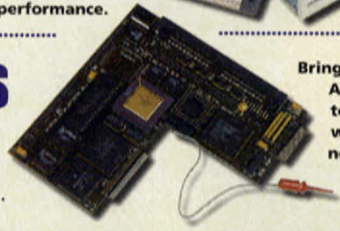
AF SERIOUSLY AMIGA



Lens flares, volumetric gases and special effects galore... if you can find them.



It looks just like a slightly snazzier floppy disk, but has a much more impressive performance.

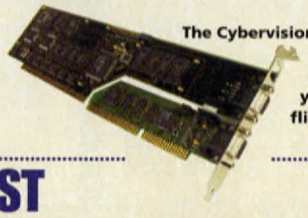


Bring your old Amiga up to speed with these new cards.





Re-use CDs with the Nomaï (above) and take photos with the Digicam (left).



The Cybervision scan-doubler card – the solution to all your monitor flickers?

COVER STORY

14 POWER PC BOARD



The Phase 5 Cyberstorm PPC in all it's glory. It's incredibly fast, cheap and fully reviewed here by *AF* experts **Nick Veitch** and **Simon Goodwin**. Is the Power Amiga the future?

CD-ROMS



COVERDISKS











That's a lot of wrapping for a new mousemat...





The fashion police prepare to punish anyone wearing nasty green pantaloons.



Cunning computer tactics as *Foundation* develops a mind of its own.



Death, destruction and driving very fast in *Street Racer*.

SCREENPLAY

AMIGA News FORMAT

WHAT'S UP?

New Amiga developments
Two major new machines about to launch

New towers from Eyetech
A1200 and a PC motherboard in one tower

World Foundry join Vulcan
Vulcan Software signs 14th software team

New Amigas - we really mean it!

We've told you before about MicroniK's licence to sell Amiga-based computers by repackaging A1200s, but Power Computing and DCE Computer Service GmbH are the first venture to be able to offer a completely new, officially licenced machine based around the Amiga's core hardware – Kickstart 3.1, the AGA chipset and the Zorro slot system. The first new model will be premiered at the Cologne show in Germany, between November 14-16, to be followed by a more powerful system early in 1998.

A brand new Amiga at last – the A5000 (right).

> *This new developed board in standard ATX... is another milestone for the future of our Amiga technology.*



New machines courtesy of Power Computing and DCE Computer Service GmbH.

The A5000 is an Amiga based around a 68030 processor at 50MHz (a full 030 with MMU) on a motherboard which is designed to fit in a standard PC case (ATX) without requiring all the effort that currently goes into tower conversions. The A5000 will have two SIMM sockets allowing for up to 64Mb of fast access memory on the motherboard and a standard A4000-type CPU slot for easy upgrade to a PowerPC board.

The forthcoming A6000, due on sale in January, will have four SIMM sockets allowing for up to 128Mb RAM and will be equipped with a 68060 at 50MHz on the motherboard. Both machines will have a scan-doubler on the motherboard so they can be used with widely available VGA and multiscan monitors, which previously required additional hardware.

Petro Tyschtschenko, president of Amiga International, Inc. said: "As promised, we continue an open license policy to broaden our Amiga market. DCE Computer Service GmbH is well-known in Europe for advanced technology developments. This new developed board in standard ATX [form] with a modular system... is another milestone for the future of our Amiga technology."



Thomas Dellert of DCE (left) and Petro Tyschtschenko, president of Amiga International Inc.

In addition to these two new machines, Mick Tinker's long-running experiment into replacing the Amiga 4000 is coming to fruition with a computer similar in spec to the DCE machines. Details are vague on the cost of these machines, but all are expected to be less than half of what an A4000 would cost at retail.

For further details on the Power Computing/DCE A5000 and A6000 call Power on 01234 851500 or visit their website at www.powerc.com.

Blittersoft will be handling the new Mick Tinker machines. Call 01908 261466 or visit www.blittersoft.com.

Take two cases into the shower?

Last month's Workbench contained a statement from our Graeme to the effect that you couldn't put your A1200 in a tower case and accompany it with a PC motherboard because there was no room and, besides which, one of the boards would have to float somewhere in the middle of the case for it to work.

This was certainly the case when Graeme wrote his answer, but those wizards at Eyetech have decided to refute that by doing the seemingly impossible and putting them both into a tower called the EZPC tower (you'll find it advertised in this issue).

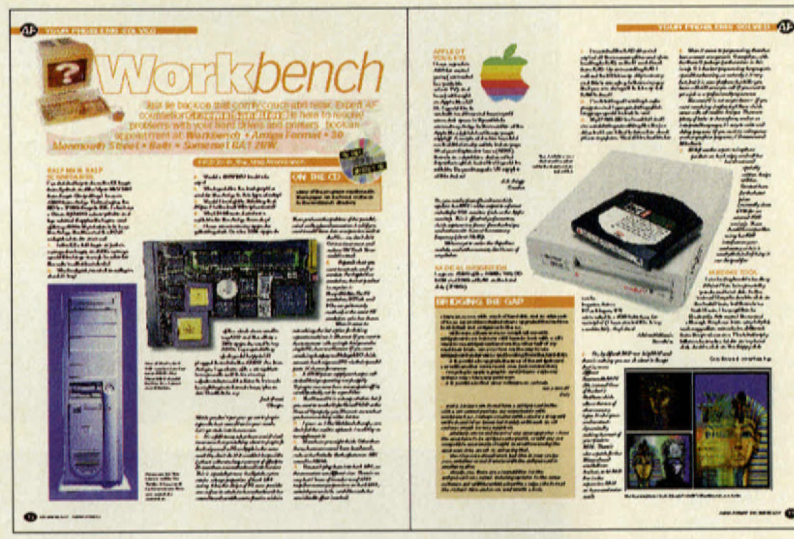
But Eyetech aren't interested in merely achieving the impossible – they also have other irons in the fire, like EZ-VGA. EZ-VGA is an external scan-doubler for any Amiga which plugs into the Amiga's 23-pin video port and allows you to use a standard (and therefore cheap) SVGA monitor for all Amiga screen modes.

Remember that a scandoubler isn't a flicker fixer so you'll still get interlace flicker, but it will allow you to use these monitors and it only costs £79.95.

They also have AUTO-MON (not EZ-MON?) which is an automatic monitor switch for the CyberVision 64/3D and Siamese for any Amiga. It works by detecting which machine is the active one and jumping between the two automatically.

The last thing they've been busy working on, in conjunction with Oliver Kastl, is EZ-IDE. This is the universal solution to attaching new peripherals to your Amiga, whether they be CD-ROM drives, Zips, LS-120s, IDE or SCSI. It gives a full CD³² emulation and optimises IDE hard drive performance, eliminating all those horrible MaxTransfer errors. It's available for £34.95 but buyers of other Eyetech products which might require it are entitled to a discount.

For more details on any of these products contact Eyetech on 01642 713185 or visit www.eyetech.co.uk.



Graeme Sandiford said it couldn't be done, but Eyetech's new tower proves him wrong...



AMIGA FORMAT Christmas ~Crackers~

Scattered throughout the pages of this month's festive *Amiga Format* we have boxes like the one below. These are our Christmas crackers, our presents to you. Send your postcards to the addresses given, with your name and address on them too. Please state on your postcard if you do not wish to receive details of other special offers from Future Publishing or the companies concerned. Employees of Future Publishing or the companies involved are not eligible to enter. The closing date for all competitions is February 20, 1998. All winners will be listed in our April issue (*AF109*) which will be on sale March 19, 1998. No correspondence will be entered into. Best of luck!



AMIGA FORMAT Christmas ~Crackers~

"What do you say to a man that can run anything on his computer? (worth £300)"

Microcode Solutions have given us the ultimate emulation solution with a copy each of Fusion and PCx to three lucky winners. If you fancy getting your hands on this easy way to get a PC and Mac on your machine, send a postcard to:

***AF* emulation draw, Blittersoft, 6 Drakes Mews, Crownhill Industry, Milton Keynes, MK8 0ER**



Vulcan sign up World Foundry



Stunning graphics from the World Foundry team – a bug-like alien (left) and a great spaceship (below).

Following our news last month that new software team World Foundry had been formed and were extremely busy working on two titles set in the same universe – *Explorer 2260* and *Maim and Mangle* – we are happy to say that they have now found a home at Vulcan Software, who are getting to be the world's largest Amiga games company.

When we asked about the deal, Paul Carrington, MD of Vulcan said, "The World Foundry is a welcome addition to the 'Vulcan Army' which already consists of some 14 development teams and over 100 skilled individuals."



LIKE A POWERPC BOARD?

POWER UP – AMIGA™ GOES POWERPC™

Stefan Ossowski's Schatztruhe, the creators of the Aminet CD range, are currently running a competition on their website to win a Phase 5 PowerPC board every month. To win, you need to find the letters coloured in orange on the site and fill in a form. Although the Schatztruhe website is in both German and English, you only need to search one to find enough letters. The closing date for this month's competition is 30th November and a new one will start the next day. The Schatztruhe site is at www.schatztruhe.de.

THE NAME'S BOND...

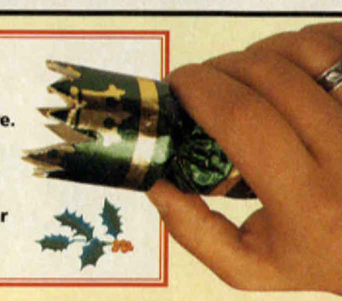
MGM have announced that they will be launching a whole new set of Bond videos, available in Widescreen and pan-and-scan formats, together with the original theatrical trailers, to coincide with the release of the new Bond film *Tomorrow Never Dies*. As you may recall, Amigas were used in the production of the last film, *Goldeneye*, for modelling the MIGs that flew over a satellite installation. Next month we'll be offering ten copies of the widescreen version for you to win! These versions of the movies are on sale until spring next year, when MGM plans to delete them.



AMIGA FORMAT Christmas ~Crackers~

"'Oh you said ON-line', said the man waving the rollerskates... (worth about £200)"

Gasteiner have a couple of modems for you comms bods out there. The winner gets a brand new Origo K56 flex modem, the runner-up get gets an almost equally good Origo 33.6k modem. To enter, just send a postcard to the following address:
***AF* Christmas draw, Gasteiner, 18-22 Sterling Way, North Circular Road, London N18 2YZ**





One of the best titles for an Amiga game in a long time.



Set in the same universe as *Maim and Mangle* for a more coherent background.



New software team World Foundry who have now joined forces with "the Vulcan Army".

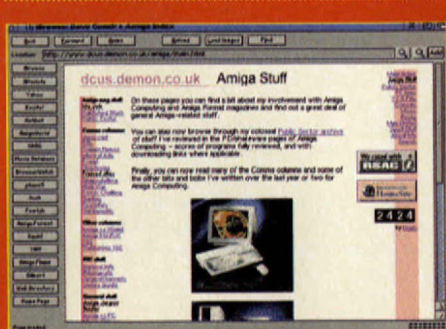
As we said last month, The World Foundry have some cracking ideas for their universe which gives a coherent background to both *Explorer 2260, Maim and Mangle* and forthcoming WF games.

They are also unique in that they would like to concentrate on PowerPC development for their games, with ports back to the standard 68k family at some loss of performance.

You can see the Encyclopaedia Galactica website that forms the backbone for the Explorer universe on our CD, and you can visit the World Foundry website at this address: http://www.worldfoundry.home.ml.org/


World Foundry – out of this world graphics, anyway.

Net Corner



DAVE CUSICK'S HOME PAGE

Dave Cusick has been around longer than you might think. Not only is our stylish comms guru and PD selector one of our favourite freelancers, but he has also worked on a variety of mags before us, including the illustrious but sadly departed *Amiga Computing*.

His incisive and informative writing is always a treat to read and his website collects much of it for public view. Not only that, but if you are a Manchester United fan, you'll find lots of interesting things on this site as well.
http://www.dcus.demon.co.uk/

AMIGA FORMAT

Amiga Format's web pages have been in the doldrums for the last few months, but in preparation for the new and revamped pages we have a chat forum and a place where you can buy and sell your Amiga bits and bobs, and even announce your new software or give details of your local user group.

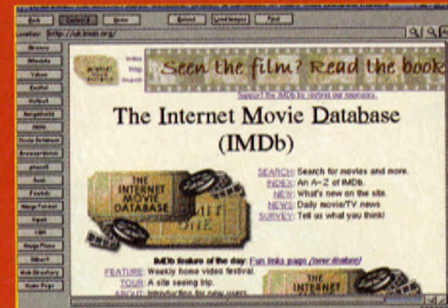
Keep visiting the pages – there may not be much there now but, like a rumbling volcano, *Amiga Format's* website is set to explode.
http://www.amiganet.co.uk/

INTERNET MOVIE DATABASE

The Internet Movie Database hasn't got anything at all to do with the Amiga, but I was surprised the other day when I found that friends who were really into movies and had internet access didn't know about it.

The site catalogues over 120,000 movies from all over the world from the beginning of cinema to the present day (and even lists some that are still in production).

It's ideal for the Kevin Bacon game and for discovering the answers to all those competitions that ask you which film contained both Anthony Hopkins and Mick Jagger (it's *Freejack* by the way). Anyway, the Internet Movie Database is the ideal place for any movie buff to visit.
http://uk.imdb.org/



UK Online go all alternative

Although UK Online has been around since 1994, it hasn't been a name well-known in Amiga circles. All that is set to change, however, with their announcement that they will support the two major 'alternative' computing platforms, the Amiga and Acorn ranges of machines.

While we at Amiga Format aren't too concerned about the Cambridge-based computer, we're very pleased to hear the level of commitment UK Online are planning for Amiga owners.

They have already announced that they will be mirroring important Amiga websites including the Amiga Web • Directory, Vapor and Amiga.org for faster UK access, and they will offer a full Aminet mirror in the very near future. UK Online have also been out and bought Amigas and are busy training staff to handle tech support queries for Amiga customers. Other ISPs have promised Amiga support, but very few seem to offer this level of service, including longstanding ISP Demon.

Best of all, new customers to UK Online will not be offered a rag tag bundle of Amiga software, or expected to find their own, as they will get a demo of Active Software's *NetConnect* – the Internet software package even an idiot can install and use. UK Online will also offer a special upgrade deal to the full version of *NetConnect* for just £39.95 (a discount of nearly 40% on the recommended retail price).

UK Online's commitment and full backing for the Amiga market is further illustrated by their 24 hours a day, seven days a week help-desk staff, who are enabling them to support these platforms around the clock.

"Amiga users have been promised Internet support from a number of Internet companies in the past, but UK Online have done more than just promise," said Chris Wiles, Manager of Active Software. "They have bought Amiga computers, trained their staff to support their Amiga software, bought a server simply to mirror major Amiga web sites and they are working closely with Amiga magazines to make sure this message is heard."

Matt Kelland, Business Development Manager of UK Online said:

"We recognise that Internet users are not confined to people with PCs and Windows, and we are keen to demonstrate that we can deliver a high quality and comprehensive Internet service to users who may feel neglected by the mainstream Internet business."

If you want to find out more about UK Online you can visit their website at http://www.ukonline.co.uk



Major Internet support for the Amiga from UK Online, with websites and dedicated helplines.

It's the poodle's parts

For *Loaded* readers everywhere, a new email service has been set up to allow the redirection of your email to a permanent address on the net. Pay a £20 registration fee per year and you can tell people your email address is blah@dogzbollox.com. It doesn't matter if you change ISP, just tell the guys at Dogzbollox.com and you'll still get all your email. As the Dogzbollox boys say:

"Buy a year's subscription for a unique Dogzbollox.com email address and stand out from the crowd on the internet." Yes, presumably you'll stand out in the same way that someone with "I'm a nutter" tattooed on his forehead will. Anyway, visit www.dogzbollox.com for further details.



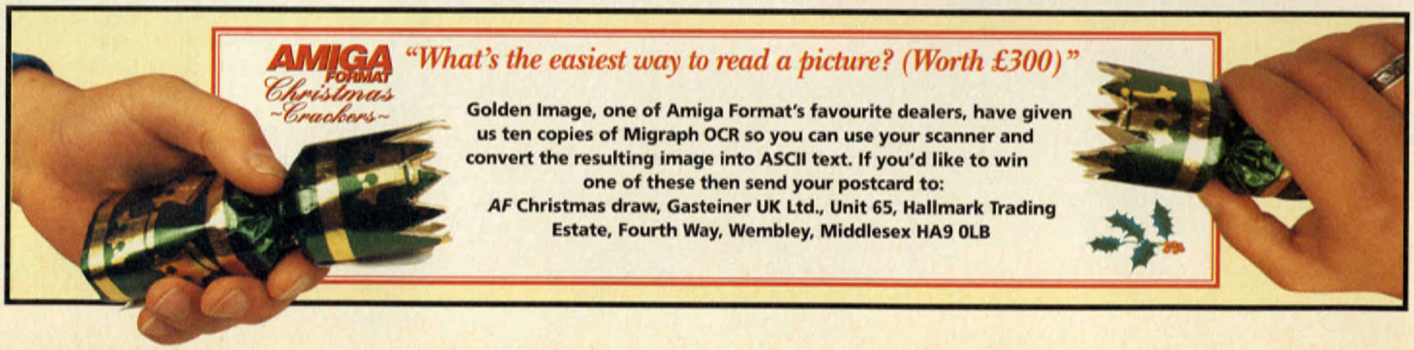
Hmm, email with attitude, eh?

Amiga Expo – this just in!

In time honoured fashion, there is just some time to give you some late breaking news on the Mid-west Amiga Expo, held on Nov 1. Apparently the show was very well attended compared to previous years, both in terms of visitors and exhibitors. Petro Tyschtschenko spoke at length, but said important technology announcements would wait until Cologne (from which we'll be reporting next issue).

Amongst the details which were revealed were that both QuikPak and German company DCE are being granted licenses to develop and manufacture Amiga hardware.

We will bring you any more exciting developments from this show next month...

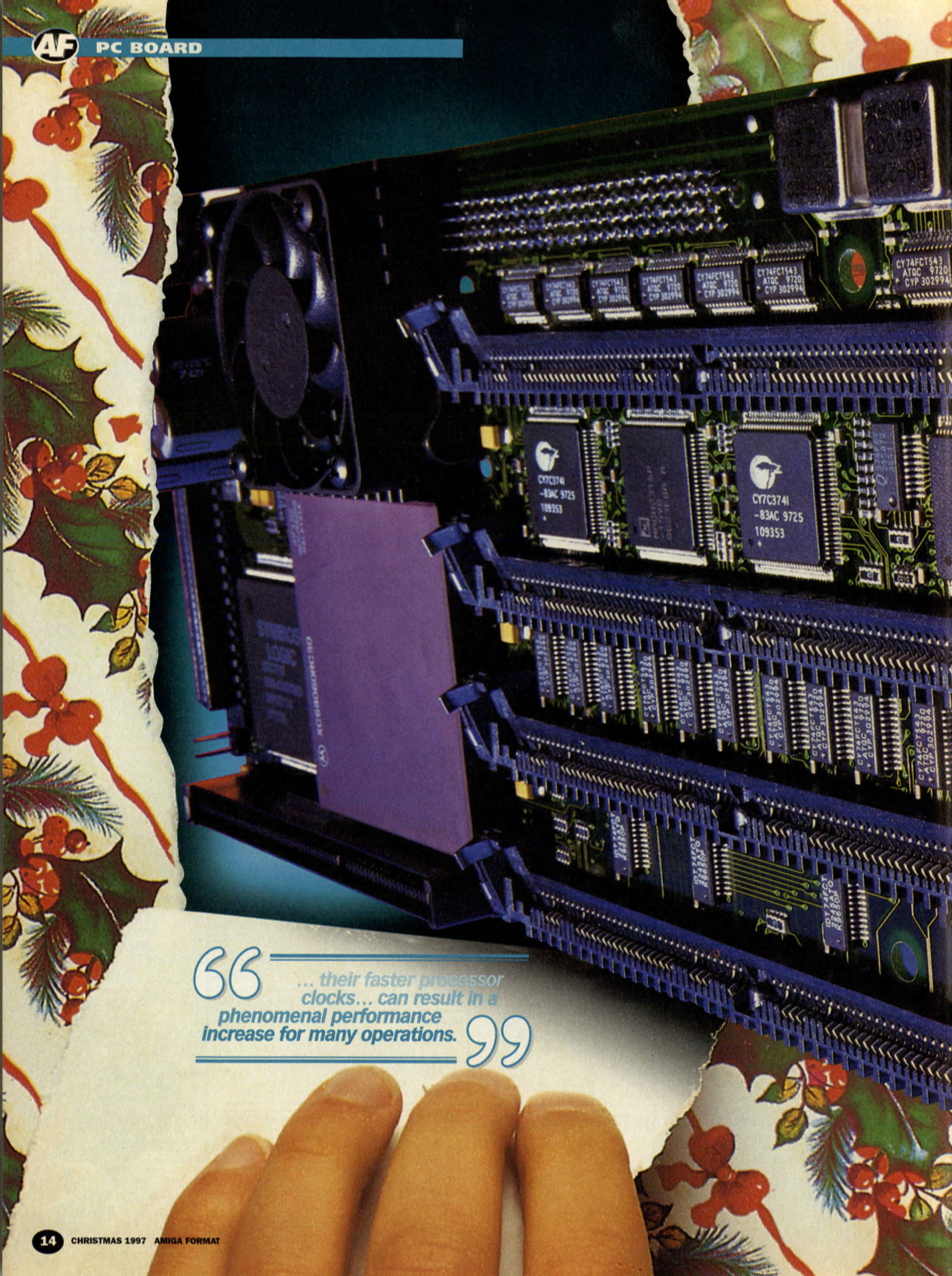


AMIGA FORMAT *Christmas Crackers*

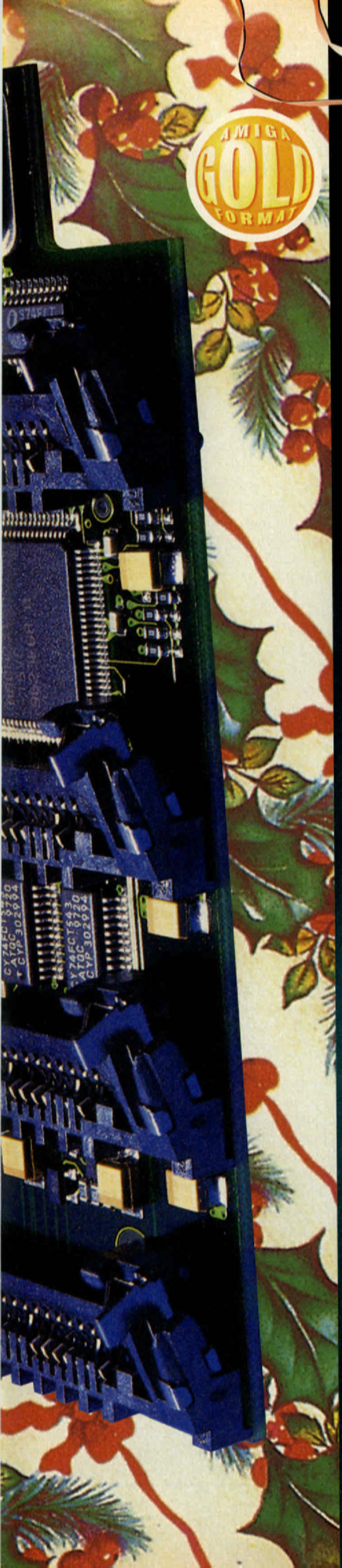
"What's the easiest way to read a picture? (Worth £300)"

Golden Image, one of Amiga Format's favourite dealers, have given us ten copies of Migraph OCR so you can use your scanner and convert the resulting image into ASCII text. If you'd like to win one of these then send your postcard to:

***AF* Christmas draw, Gasteiner UK Ltd., Unit 65, Hallmark Trading Estate, Fourth Way, Wembley, Middlesex HA9 0LB**



"... their faster processor clocks... can result in a phenomenal performance increase for many operations."



What I want for Christmas...

Nick Veitch and **Simon Goodwin** test Phase 5's long awaited **Cyberstorm PPC** – is the Power Amiga the future?

...Phase 5 Cyberstorm PPC (Power PC 604e)

The future is here at last, or at least what some people see as the future of the Amiga. Some said it couldn't be done, some said it could be done but what was the point, and some just did it. Those people were Phase 5, and what they have done is bring the Power PC processor to the world of the Amiga.

For people not aware of the PPC chip, it is a Motorola manufactured RISC chip which, thanks to it being RISC, performs most functions in fewer clock cycles than the more complicated CISC chips like the 68000 series which the Amiga is based around. Coupled

Continued overleaf ➡

with their faster processor clocks (up to 200MHz, compared to the '060s top speed of 66MHz), again made easier by RISC technology, this can result in a phenomenal performance increase for many operations.

> "The PowerPC is fast, and really deserves a gold award just for working in the first place."

The first stage in Phase 5's plan necessitates the PPC chip being piggy-backed on a board which also contains a standard 68k series processor. The simple reason for this is that it is currently impossible for the Amiga's operating system to run on a Power PC.

This makes things slightly difficult, as you will still need a 68k processor which can handle the normal Amiga system, and pass control to the PPC for code which it can use. In order that it doesn't prove to be a bottleneck, the 68k processor has to be an '040 or an '060. The last limitation is that the PowerPC can only be used by software which is programmed to take advantage of it. If you don't have any software coded to use it, then the PPC chip is just a pretty decoration.

In spite of these problems, Phase 5 are confident that the hybrid board will give a significant speed advantage to Amiga owners when software is coded to take advantage of it. And, of course, that eventually the whole Amiga OS could be ported to the PowerPC, speeding up everything dramatically.

For now, at least for those lucky people with machines capable of using it, the Cyberstorm PPC card is here...

CONSTRUCTION

The PowerUp board is packed with circuitry. You get three powerful 32 bit processors – the PPC604e, at 150 to 200 MHz, the supporting 68K processor – either a 50 MHz 68060 or a slower 68040 lifted from an old CPU card – and the Ultra SCSI controller, which may only manage a couple of million instructions a second but compensates with individual instructions that move up to sixteen megabytes around memory in a fraction of a second, or perform a complete SCSI arbitration sequence in one step.

One end of the board is dominated by the power supply. Six large electrolytic capacitors tower above a peculiar spiral inductor, like the cooling towers and furnace of a tiny power station. With the regulator chip alongside, they generate the 3.3 volt supply for both Motorola processors and the special 2.5 volt rail which keeps the PPC core from overheating. The SCSI connector is at the edge of the board, right next to the controller, a Symbios clone of the NCR 53C770 Ultra SCSI script processor.

The PPC itself is dwarfed by the other parts. It's a quarter of the size of the 68060, hidden under the cooling fan. Rather than glue the chip inside a ceramic package, like the companion 68060, Motorola have put raw silicon face down on a small carrier, saving space and allowing a direct thermal connection to the heat sink.

There are no jumpers to set, and only six sockets on the board – four for SIMM memory modules, from 4 Mb to 64 Mb in size, which must be fitted in matched pairs, and a 68 hole 'Ultra SCSI wide' socket. The sixth is the now-traditional 'add on slot', apparently intended for a CyberVisionPPC video card – although this has yet to be seen, like Prelude and Catweasel Zorro expansions, and the proposed PPC for Picasso IV!

Phase 5's main contribution comprises a row of custom FPGA chips tucked away under the SIMMs.

Following the example of the Warp Engine, they've put components on the underside of the board as well as the top, but their SIMM sockets are much better quality than the fragile plastic ones on the Warp.

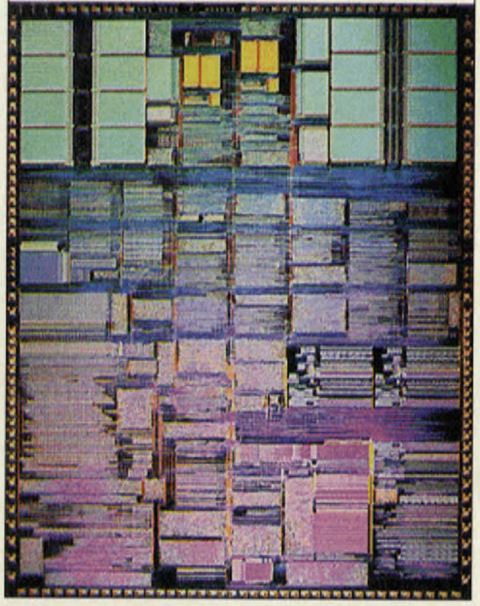
FITTING

If you bought your PPC in the PowerUp upgrade programme you must transfer a 25 MHz or 40 MHz 68040, or 50 MHz 68060 from your old board to the Cyberstorm PPC. This takes great care, and preferably a special tool. Take care to insert the chip the right way round. It should be impossible to fit it the wrong way, but we're alarmed to find that some people can manage it. A 40 MHz 68040 needs a second cooling fan, transplanted from your old board, for reliable operation.

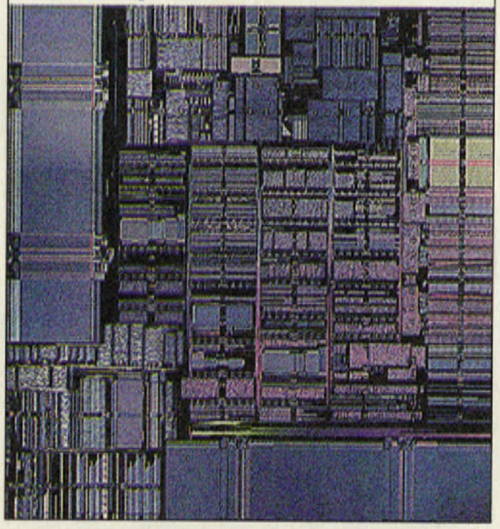
Upgraders from a 68030 need the Cyberstorm PPC that includes a 68060. They must also adjust two configuration jumpers inside the A4000, or three in an A3000, so that the motherboard derives necessary timing signals from the accelerator.

The accelerator plugs into the 200-pin fast expansion socket in an A3000 or A4000. The board is easy to fit compared with the four-part Cyberstorm Mark 1, or the Mark 2 with

Motorola's PowerPC™ 604 RISC Microprocessor

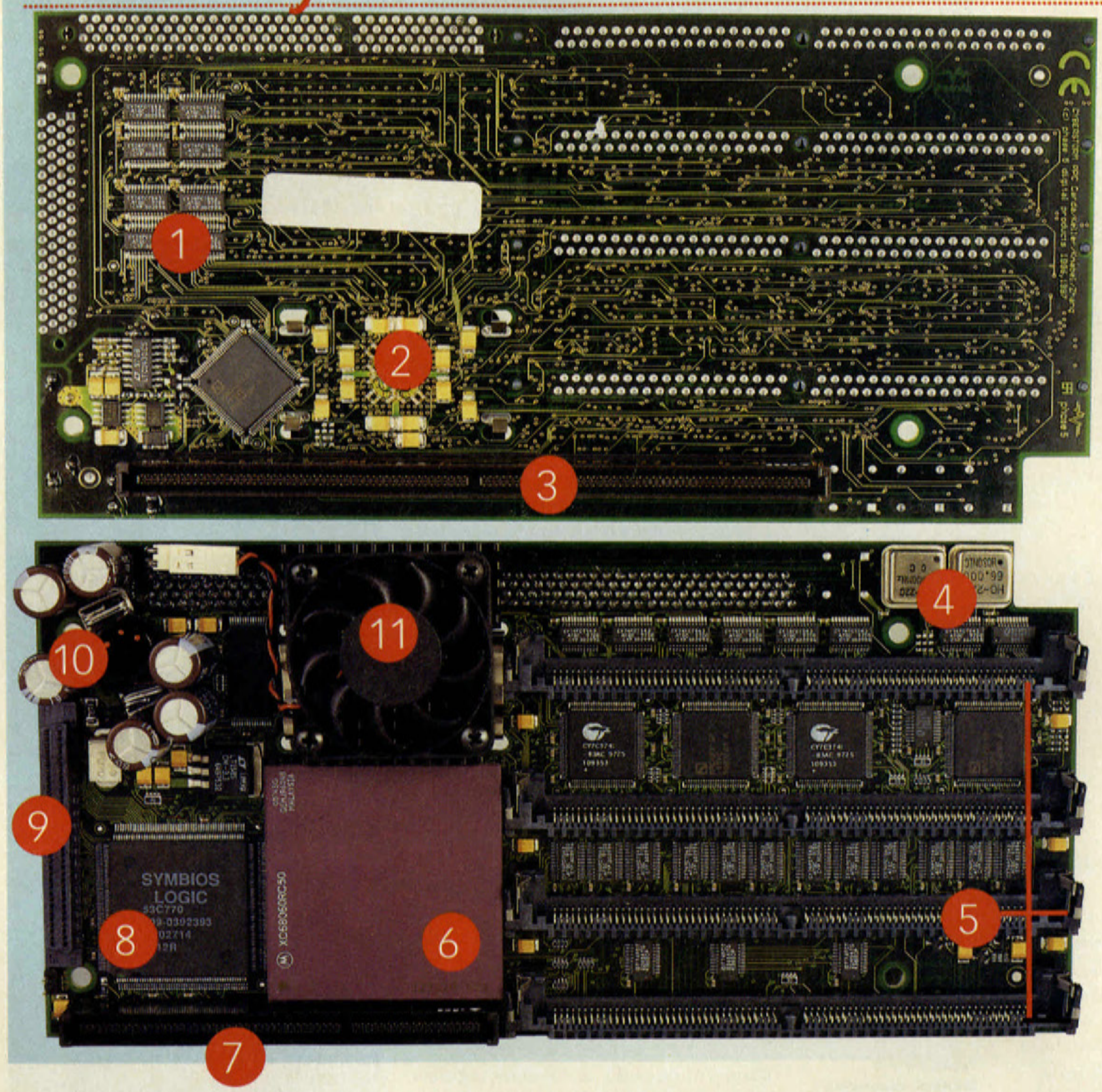


Motorola's PowerPC™ 620 32/64-Bit RISC Microprocessor



These masks of the PowerPC chips show how complex, and yet how simple these devices really are. The data caches stand out easily against a backdrop of pipework.

The way it works



1 – Following the trend of the older Cyberstorm, Phase 5 are now using both sides of the board to pack as much circuitry on board as possible.
2 – This shows the connections to the PPC chip itself. From this you can see just how small a piece of silicon this wonder processor is.
3 – The cunning CBM design processor socket – make sure the PPC board fits securely.
4 – The timing crystals drive the '060.
5 – Four SIMM sockets. Memory must be added in pairs, and all SIMMs must be the same speed.
6 – The 68060 processor provides backwards compatibility and interfaces the PPC to the Amiga.
7 – The expansion slot, for expansions which don't exist yet! A special graphics card is set to be the first device to use this interface.
8 – The Ultra SCSI controller chip. Unfortunately, Phase 5 ran out of space for active termination on the board.
9 – This is the Ultra SCSI port for attaching SCSI devices – if you've got the right connector.
10 – Power regulator.
11– Under this heat sink sits the PPC 604! Don't remove it though, because the 604 has no ceramic "lid", it attaches to the underside of the heat sink.

its flapping SCSI addendum, but check you have it plugged in all the way, or it will fail to start or, worse, give erratic results. An extra wire must be soldered into desktop A3000s to supply a missing interrupt signal to the SCSI controller.

SOFTWARE

The PPC comes with a printed manual – first in German, then in the usual ropy English – and software support on two disks and a half-full CD. Part-way through the documentation, Phase 5 explain that software must be installed before you fit the new PPC card, information that should surely appear before the fitting instructions!

System software on the CD is bugged so you must use the floppy version. The 68060 support code installs normally, but two PPC libraries must be copied manually. A second floppy disk contains SCSI software similar to that for earlier Cyberstorms.

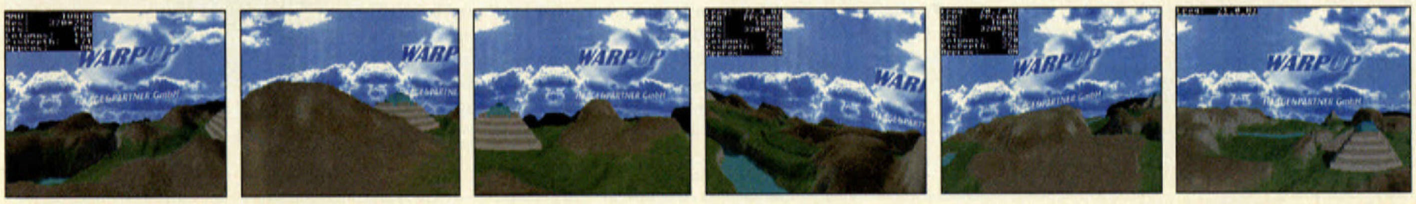
You don't actually need a CD-ROM drive unless you want to access the developer materials and demos on the CD. Most of the CD is occupied by files for ADE, which is the so-called Amiga Developer Environment.

This is poorly documented freeware, hastily ported from UNIX. It includes GCC, the only free C or C++ compiler yet available to generate PPC code on an Amiga, a non-standard PPC assembler and various programs from the GNU UNIX clone project.

The development software is not Workbench-friendly. Many programs only run from the Shell, after you've manually increased the stack size and typed in necessary assigns. Others have Magic Icons but no proper icon image. Files are illogically scattered and cryptic error messages abound.

There's a sad dearth of code that makes good use of the PPC. Most supplied programs run on the 68060, and what PPC code there is typically falls into the category of hacks, rather than real applications. Of 90 megabytes of files in the 'contrib' directory, most

Continued overleaf ➡



This demo from Haage & Partner's Warp UP really demonstrates the power of the PPC. On a graphics card, this completely generated landscape flies past at 15 frames a second.

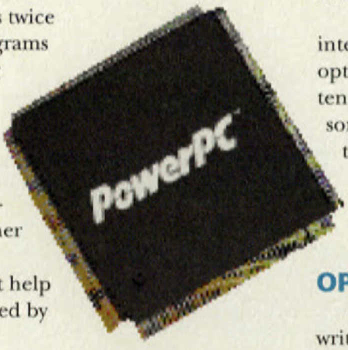
are copies of web pages with pre-release information about proposed PPC-compatible products, and much German text and unrelated filler.

You also get 11 megabytes from Phase 5's own web and FTP sites, including upgrade code for CyberGraphX boards and their SCSI interfaces. The only substantial applications on the CD are demos of *ArtStudio* and *PPaint 7.1*, which make no mention of the PPC and do not appear to use it at all. There is a plug-in update for *PPaint* on Aminet – a blitter library which does use the PPC.

The *Wildfire* graphics package is not included at the moment – probably as it wasn't finished at the time of compiling the CD – but you can get it from Aminet if you don't mind a three megabyte download. MUI 3.8 occupies the last 2 megabytes on the CD as it's needed to read the web files with the cut-down browser supplied.

PPC SPEED

There's no one-dimensional way to compare speeds of PPCs and 68K processors. Raw test results on unreal programs suggest that the PPC is twice as fast on memory-intensive programs and nine times faster on floating point. Integer programs deliver in-between results, depending on the exact task and the programming style. These are generalisations. Hand-optimised code can make a further difference by a factor of two, although the PPC obviously can't help you if your applications are limited by Zorro, interface or drive speeds.



Those ratios assume a 50 MHz 68060 and 150 MHz 604e, or a 66 MHz 68060 and 200 MHz 604e. Phase 5 have been promising 66 MHz 68060s for a long time and Motorola now advertise them, but so far only Apollo have come up with the goods.

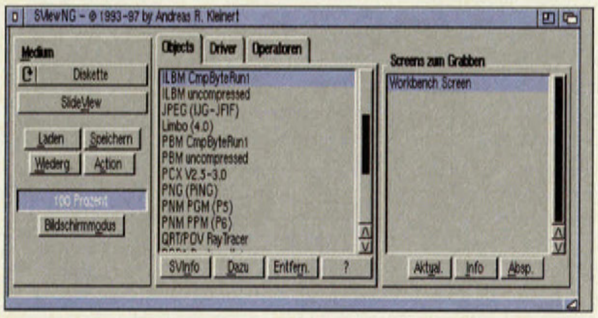




Graphics software can make great use of the PPC. Unfortunately, these tantalising screen shots (above, top right) are just stills from software which is still in development.

There are few native PPC programs so far and many are compiled into machine code, which an experienced assembler programmer would regard with contempt. In a user-interface routine this may not matter much – the code is likely to be relatively large, in memory and on disk, but speed of development may outweigh speed of execution or loading.

However, in an emulator or intensive computation, good manual optimisation could make code five to ten times faster. *Wildfire* is typical of the sort of graphics manipulation software that thrives on a PowerPC. Many of its operations are three to ten times faster when recompiled for the 604e.



***SuperView* is another shareware program which will be released in PPC utilising form soon.**

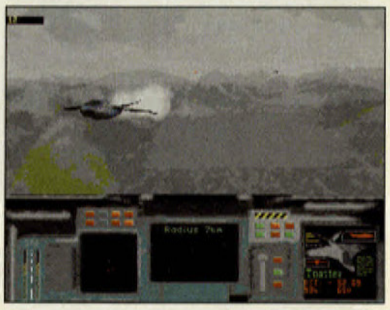
OPTIMISATION

Most early PPC programs are written using the standard compiler recommended by Phase 5, the freeware GNU GCC compiler for C and C++. This portable compiler is no match for hand-written code, as the more registers the programmer has available, the more GCC's optimiser falls behind. Human coders can make better use of spare registers than compilers, so GCC performs relatively well on Intel's sparse X86 range, but begins to look increasingly dim on Motorola 68K and PPC chips, with 16 and 32 general purpose registers respectively.

The rival Storm C from Haage and Partner has the advantage of generating mixed binary files – extensions to the normal Amiga object format which contain both 68K and Power PC code. Phase 5 ban this 'alien' format, and follow GCC in using separate ELF files for PPC code, albeit in their own proprietary remix which they sternly warn WILL CHANGE. Most ELF files use absolute addresses and are relocated by Unix memory management. Phase Five have opted for an unique variation, unfortunately







Although none are completed yet, many companies are working on games which will make use of the PowerPC.

SCSI PROBLEMS

We'd love to have tested the PPC SCSI interface, but could not because it has a connector that won't fit any existing Amiga SCSI drives! Phase 5 could not supply an adaptor and Power Computing could not come up with any suitable drive. Simon bought a SCSI wide drive recently, anticipating Power UP, but this has an 80-pin connector and, again, there's no suitable adaptor.

The moral is simple – do not assume that you will be able to use any existing equipment with the Ultra SCSI, and remember to budget for cables, adaptors and, ideally, new drives if Ultra SCSI is important to you. Power Computing were unable to supply an Ultra SCSI drive for us to test, on the reasonable grounds that they had none in stock, and weren't intending getting some until someone ordered them!

In theory it should be a good interface. It uses an NCR script controller, like the Warp Engine and GVP 4000/060, leaving almost all the CPU power for the main program, although at 40 Mb per second it might leave little RAM access time for the other processors. This 53C770 model is notionally up to four times faster than the 53C710 used on earlier Amiga boards, thanks to the doubled transfer rate of Ultra SCSI and doubled data path of SCSI WIDE.

The Cyberstorm PPC is supplied without any cables and has no termination on board. A special adaptor is needed to convert from 68-pin wide SCSI to standard 50-pin SCSI 2 format. A simple cable will not do because Phase 5 require separate termination for the extra data pins unused by the SCSI 2 interface. They plan to make a combined adaptor for external devices and standard 50-pin 'narrow' drives, but cannot provide a prototype for review or say when it will be ready.

It seems that they simply ran out of space on the PPC board. Compare this with PCI SCSI adaptors, which have on-board termination and both 50 and 68-pin connectors, and it's clear that Phase 5 have made some sacrifices in squeezing all that functionality onto a board that will fit even a cramped A3000. If you're already using SCSI 2 they advise you to stick with your old controller for those drives, but that's not possible if it was integrated with the CPU accelerator, as on many systems.

In fact, once the PPC support software has been installed, your old SCSI controller may no longer work if you put it back to transfer data from SCSI to IDE. I found that the Warp Engine reported loads of SCSI errors, and traced the fault to the 'stub' 68040 library installed by Phase 5. Without the proper library, and its MMU setup, the Warp Engine's DMA controller cannot work properly. To cure this you must restore the original 68040 library, renamed by Phase 5's installer.

The 68-pin interface demands more expensive drives, cables and terminators. After many unsuccessful calls we were offered an internal cable for up to six drives (wide SCSI supports up to 15) at £69 and a wide active terminator at £35, both plus VAT and carriage.

Phase 5 promise to make these components available at more reasonable prices through dealers, but you'll still be stuck with 68-line cables, rather than the 50-pin standard ones which are used on existing Amiga equipment.

preventing the loader from spotting missing links.

Even experienced Unix programmers will find GCC and the ADE rather odd, but they'll have a big advantage over Amiga aficionados, who will be more at home with Storm C and its companion WarpUp, a rival to Phase 5's PowerUp PPC library.

WarpUp and PowerUp offer similar facilities, managing communication between CISC and RISC processors with functions reminiscent of the Amiga exec.library. Standard functions won't do the job because they don't take account of jumps from one processor to another, or of the peculiar situations that arise when two modern processors share memory.

COPYBACK

For top speed on both processors, Phase 5 have opted to use the Copyback data cache mode on each. This speeds up writing as well as reading by storing temporary values inside the processor, but it also raises some serious compatibility problems.

Since both processors can delay writing values, and communication between Amiga processes takes place through memory, the caches would prevent messages getting through, unless special action was taken.

Bus snooping hardware can get around this, but not if both processors are using copyback to speed up writes to memory. Instead Phase 5 have opted to flush out the processor caches – up to 8K on the 68K, 16K on the PPC – between transfers of control. These take ages, in micro terms, perhaps 250 microseconds. Tens, if not hundreds of thousands of instructions could be performed in the meantime! Both processors are also held back, but such is the price of compatibility.

The PPC library also manages memory, allocating chunks of 32 bytes at a time, rather than the Amiga default of eight byte lumps. This is vital because the PPC cache reads and writes 'lines' of 32 bytes. It's not possible to keep RAM and caches in kilter if an allocation straddles a line boundary.

WarpUP is a replacement PPC library, freely available from Haage and Partner, which gives the programmer faster communication between processors, closer compatibility with Amiga OS and far more control over memory management. The English documentation is better and so are the demonstrations, but WarpUP is dismissed by Phase 5, who want to move coders away from Amiga conventions to their unfinished, Unix-based A/BOX. We found the Warp ppc.library faster and more reliable.

> *... many developers have said they will be creating PPC enhanced, or even PPC only software.*



The Amiga has Powered Up at last – all we need now is some great software.

WarpUP demos are professionally optimised for both processors, giving a fair measure of relative speed. The awesome Commanche-style *Voxelspace* demo zooms along at a default speed of about 15 frames per second on a 68060, and a smooth 20 to 30 with the 604e/200, driving an Amiga PAL screen. The difference can be as much as three to one if a fast graphics card is used and MMU hacks are disabled – they are legal under WarpOS, dodgy (though they work) on the 68060, and banned by Phase 5.

CyberPI is a pure number cruncher which generates a long approximation to the value of the constant PI, using Taylor's approximation for the ArcTangent. It's a fair comparison, though there are faster methods, cranking out 100,000 digits in 50 minutes on an A3000 or half an hour on a 25 MHz 68040, taking full advantage of the 64 bit DIV instruction lacking on later Motorola chips.

The 68060 does the job in 15 minutes, compared with four and a half minutes on the PowerUp 604e.

Author Sam Jordan timed it at around around 9 minutes on the 150 MHz prototype PPC603e.

Continued overleaf ➡

MEMORY

We can't generalise about individual applications except to say that pure PPC code will be fast, and it may take years before we see the full potential. We can test the limits of the hardware though, and make some useful comparisons and predictions from those results.

> Raw test results on unreal material suggest that the PPC is twice as fast on memory intensive programs...

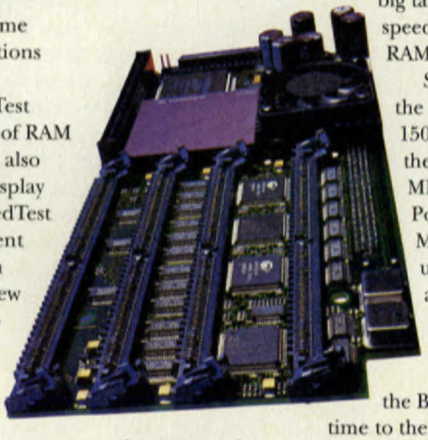
Phase 5 supply a PPCMemTest program to measure the speed of RAM access from each processor. We also used Fusion's memory speed display and Michael Van Elst's BusSpeedTest 0.19 from Aminet as independent tests, comparing the 68060 with the PPC performance on the new board, and the original Phase 5 68060 with the latest version.

Phase 5 claim 68060 memory speed is much improved, giving up to 25 per cent higher performance on *LightWave*, but this is by comparison with the slowed-down Mark 2 Cyberstorm. The advantage against the Mark 1 is relatively slight.

The table shows the results. The PPC has twice the bandwidth of the 68060, fetching 64 bits rather than 32 at a time. Most transfers use bursts of four words – 16 or 32 bytes – and the tests are optimised for such sequential accesses. Since the processors share the same memory, simultaneous access slows them both.

These figures assume that one processor is busy and the other is idle. At present this is often the case, but may change as PPC and 68K are better integrated by the system software. The SCSI controller can also take control of the memory, leaving less time for the other chips.

Memory on the Amiga motherboard must be controlled with 68020-style signals, limiting speed. Chip RAM is slowest of all because the majority of its time is spent servicing custom chips, rather than the main processor(s). The A3000 timings make for interesting comparison. Like most benchmarks, these are 'best case' figures. Random reads – as when following a list or looking up data in a big table – trim away much of the speed advantage of CPU-local RAM.



The PowerPC, for certain applications, represents the greatest speed up the Amiga has ever had!

Some programs report that the 200 MHz PPC is running at 150 MHz, because they assume the memory bus cycles at 50 MHz, like the initial 150 MHz PowerUp boards. The 200 MHz PPC which we tested used a 66.7 MHz bus, allowing one free cycle for the PPC in every four, even when the 68060 was running flat out. This is similar to the Blitter, which leaves some time to the 68000 on an old A500.

The PowerUp board accesses Chip RAM at the same speed as the original Cyberstorm, substantially faster than most Zorro 3 accelerators. Writes to CPU local RAM, fitted on the PPC board, are faster than on Cyberstorm 1, but the new unit is quite a lot slower at accessing memory in the motherboard SIMM sockets. This is where you'll have to put slow (80 nS) or odd SIMMs if you still want to use them. The processors will use fast CPU local RAM in preference, so it's only there as a last resort. A couple of times the test systems failed to acknowledge that 'slow fast' RAM at all.

PPCMemTest results

	604e/200	68060/50
Copy	36.5	17.5
Read	156.3	64.9
Write	111.1	58.8

RAM speed tested using BusTest

READ LONG

	A3000	Cyber #1	PowerUp
Chip RAM	4.5	3.9	3.9
Motherboard	12.1	9.4	7.5
CPU local	12.1	38.9	39.0

WRITE LONG

	A3000	Cyber #1	PowerUp
Chip RAM	7.0	6.9	7.0
Motherboard	16.1	6.4	4.9
CPU local	16.1	26.0	31.0

All results in Megabytes per second

THE FUTURE OF SOFTWARE.

As previously stated, the Power PC is of no use whatsoever without software which has been specifically written for it. At the moment, that software is not particularly widespread, although in the coming twelve months many developers have said that they will be creating PPC enhanced, or even PPC exclusive software.

The software which would benefit most from the PowerPCs particular brand of enhancement would be that which involves a lot of graphics processing. This would not only include games, but image processing and rendering software as well.

Personal Paint was one of the earliest programs to have PowerPC speed up code added to it, long before the processors were actually available.

Unfortunately, changes in the way in which the actual PPC cards operate means that the original code makes little difference. A new version of this code has since been posted on Aminet.

A rather rapid entrant on the software scene is *Wildfire PPC*. This graphics convertor, displayer and manipulator has already been coded to make the most of the PPC chip, and it really flies. The full version is due to be ready soon and will be launched at the upcoming Cologne show.

Unfortunately, there has been no sign yet of any rendering software being converted to use PPC code. Obviously, programs such as *Lightwave* would have the most to gain from a super fast processor. Typically, nobody at Newtek could give us any comment as to whether the seminal 3D package would be updated at all, never mind have PPC or Open GL support.

On the games front, things look much more interesting. Although there are no games supporting PPC yet, there are plenty on the way. Household names such as Vulcan and ClickBOOM are already working on PPC games, while the as yet unknown World Foundry will be concentrating all their efforts on developing PPC titles (see News in *AF104*, and in this issue)before porting them back to 68k code.

Haage & Partner are reputedly developing Art Effect enhancements for the PPC, and of course Storm C (reviewed *AF104*) already incorporates two different ways of developing for this processor, as mentioned earlier.

The PowerPC is fast, and really deserves a gold award just for working in the first place. No doubt glitches and bugs will be found, but all should be easily fixed by updates to the libraries.

The engine is ready and waiting, but it is the standard of the software, and the results which can be achieved with it, that will determine whether the PPC board is successful.

DISTRIBUTOR: Power Computing 01234 851500
PRICE: from £489.95. Board tested £879.95
REQUIREMENTS: A3000(T), A4000(T)

SPEED: ●●●●●
Simply the fastest Amiga you can get.

MANUAL: ●●●○○
Helpful, but not exhaustive.

ACCESSIBILITY: ●●●●○
Fiddly installation, but easy.

FEATURES: ●●●●○
It gives you PowerPC speed

VALUE: ●●●●○
In a league of its own.

OVERALL VERDICT:
Certainly ambitious, we wait to see whether the power-using software appears.

90%

Arcade Emulators



Simon Goodwin checks out Amiga emulators for classic arcade games

AFCD21:-In_the_Mag-/Emulators

ON THIS MONTH'S CD

In the days when TV games manipulated monochrome blocks, 'telly tennis' style, you had to visit an arcade to see the future of electronic gaming. Massive wooden cabinets housed custom-made hardware, coin-operated and finely tuned to deliver an addictive gaming experience.

There were no instructions beyond a few words on the cabinet. Atari founder Nolan Bushnell stressed the need for games that were instantly playable, attractive and addictive. Sound and colour were pushed to the limits of available technology, and developed with every new game.

These consoles soon muscled into the areas once dominated by pinball machines and one-armed bandits the world over. With no prizes, there were massive potential profits for site owners. Hidden controls inside the cabinet let game speed and difficulty levels be tuned to maximise profit without driving away beginners.

Once, great firms like Atari and Nintendo vied to produce new games, supplying arcades, motorway services and (appropriately enough) chip shops, with the EPROM chips and add-on boards to give the basic box the latest personality. Much hardware came from Atari and Amiga visionary Jay Miner, augmented by add-on boards developed to give individual games the edge – like the vector graphics of Asteroids and Battlezone (see box opposite).

Internal extras included sound boards, co-processors and space for more EPROM memory chips. The hardware was steadily upgraded to offer more colours, improved scrolling, more and bigger sprites, prestaging home computer developments. This was the birth of the third-party games industry. Atari could not meet the demand for new games alone. Big hits were provided by Taito with Space Invaders, Williams with Defender, and Nintendo with Donkey Kong.

> *Arcade emulators mimic the gameplay, timing and details of the originals exactly, given enough processor power...*

It might seem perverse to run original Pengo or PacMan code on an Amiga. There's no shortage of rewrites of these games, often noisier and prettier, and other arcade favourites. But arcade emulators mimic the gameplay, timing and details of the originals exactly, given enough processor power, and if you're familiar with the real thing that may be crucial. Each ghost in PacMan or alien in Defender has unique behaviour which you learn to exploit. Months of playtesting went into the design. Copies rarely catch such nuances.

EMULATION

MAME was dreamt up by Nicola Salmoria, who grew sick of writing specific emulators for each classic arcade game. Realising that the underlying hardware was little changed between games, and the original game code was available on the Internet, Nicola devised the Multi Arcade Machine Emulator, or MAME - a collection of software components to simulate classic arcade hardware.

MAME includes processor emulators - the original Space Invaders was content with a 1974-vintage Intel 8080, but later games used Z80s, 6502s, 6809s and even a few 68000 chips - plus graphics and sound emulation. Source code - in portable but inefficient C - was freely available from the start, and MAME has also been ported to Archimedes, Mac, Unix and Windoze, although it needs a fast Amiga to do justice to the unoptimised code.





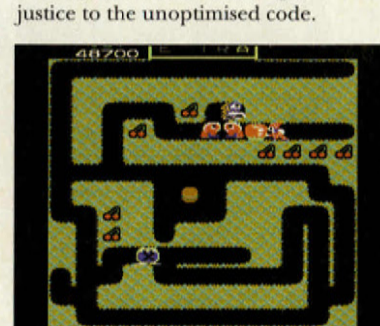
Phoenix (above and left) can still be found in its tabletop form in many of Bath's curry houses.



Classic arcade racing action in Rally-X. Collect the flags and avoid your persuers to amass a high score.



MAME can struggle with more modern games such as 1942 – you need an '060 to get anywhere near 100% original speed.



Mr Do! is the editor's personal favourite, and works surprisingly well under emulation.

HOME PAGES

Amiga Emulators:
http://www.pncl.co.uk/~martinc/emulators Arcade Game data

http://valhalla.ph.tn.tudelft.nl/emul8/main.htmlArcEm updates

http://www.gauss.demon.co.uk/Atmospherical Heights

http://www.xs4all.nl/~delite/arcade_mame.htmlMAME Home Page

http://www.media.dsi.unimi.it/mameMAME Amiga port

http://www.stud.ntnu.no/~matsha

MAME is complicated because it must emulate many systems, rather than just one. It has built-in configuration data for each known game. More than 70 programmers have contributed to the MAME project, including Marat Fayzullin. Development is currently being led by Mirko Buffoni, with Jonathan Belson and Mats Eirik Hansen responsible for AMAME and MAME respectively, on the Amiga.

More than 200 games are supported, although not all perfectly. Sound is a notable weakness of the Amiga versions, although this varies from game to game. Vector graphics may be unbearably slow unless you have a graphics card.

VERSIONS

MAME was first compiled on a DOS PC, but there are two Amiga ports, confusingly known as AMAME and MAME. Another arcade emulator, ArcEm, recently arrived on Aminet, courtesy of Andrew Bennett. So far ArcEm only runs half a dozen early games, but it's fast and stable, with a hand-coded 8080 emulator that runs rings around compiled C versions. ArcEm runs at configurable speed – 20 is just right for the author's 28 MHz 68020; I needed to boost this to 60 on a Warp Engine 68040 and 112 on my Cyberstorm 68060. It can simulate gel overlays on the original screen, for authentic colour stripes. ArcEm is elegant and Amiga friendly, with icons for each game it supports, an easily edited configuration file, and a separate directory for the raw data – but it supports far fewer games than the MAME variants.

MAME is versatile but much slower. It calls AmigaOS to update screens, so patchWPA8 (aminet/util/boot) is strongly recommended for AGA users. Version 0.20 of AMAME gained a workbench interface, although not all the buttons work yet. The code file is over half a megabyte in size.

Hansen's MAME is a more up-to-date port, so it supports more games but is even more bloated. I tested the 68040 version 0.28, which occupies 1.5 Megabytes! It has a good front-end, using MUI to assign sound, control and display options. You can use any retargetable screen mode – not just a small workbench window – but AHI sound is not yet supported.

The arcade emulators on our CD do not come with games but these are on the web and 'PD' floppies and CDs, usually as ZIP files. They're quite small, even uncompressed. In the early days a single EPROM held only 2K of code or data – so they don't take long to download, and the games are a marvel of compactness by modern standards, packing in attract modes, bonus and high score routines, and hidden configuration and self-test menus alongside the game itself.

The emulators assume certain file names for each ROM image. You must get these right or the game won't run. The MAME FAQ and related files can be found on Atmospherical Heights, a web page maintained by John den Hartog.

Bomb Jack was a landmark in arcade entertainment. Apparently.



CONTRASTS

MAME and AMAME are worth a look if you've got a 68040 or later Amiga and a penchant for arcade classics. If you're not a power user, ArcEm is better, though even that needs at least a 68020. The games it supports are authentic but unexciting by modern standards.

Let's hope ArcEm can be extended to support more games, and a PPC version of the full MAME arrives to bring C versions up to speed. Either way, arcade emulation is feasible now on 32 bit Amigas, and is sure to get even better in the future.

VECTOR GRAPHICS

Most computer displays are built up like TV pictures, scanning the entire screen systematically line by line, displaying dots at fixed positions in a rectangular grid or 'raster'. Vector graphics computers control the display beam directly, sending it around the screen in any sequence like a laser beam, drawing continuous outlines rather than discrete dots.

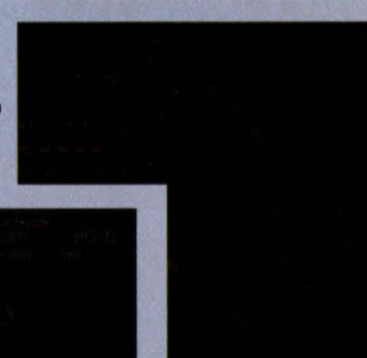
Vectors have many advantages. They need little display or pattern memory, because only co-ordinates need be stored, rather than a complete map with room for details of every possible pixel. Objects can be moved or scaled without the jumps in position and resolution inevitable on pixel-based systems. Rotation, reflection, stretching and squashing are trivial to vector machinery.

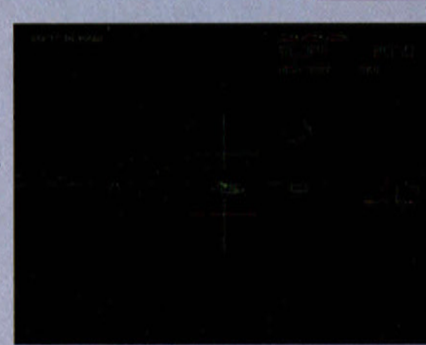
There are disadvantages, too. Images fade and there's no automatic redrawing from top left as you'd get with a raster display. The more vectors there are on the screen the longer the system takes to re-paint them all, so screens flicker and dim as images becomes more complicated. Colour requires precise co-ordination of three beams, and the slightest misalignment leads to confusing displays.

Asteroids was the first mass-market vector graphics arcade game, though similar technology was used in Space War, Bushnell's 1972 debut. The tank simulator Battlezone followed, again in monochrome, with coloured overlays to liven up the display. Vector graphics caught up with colourful bitplanes when Tempest was released, but lost ground as bitmap resolution and sprite handling advanced, eroding the memory and processor-saving advantages of vectors.

You can simulate vector graphics on a high resolution raster display, but the grid intrudes and the results are never quite as smooth or subtle as a real vector scan image. Vectrex, a home vector graphics system featured a built in mono screen, and its games are now freely available. There's a PD Vectrex emulator, but no one has yet ported it to the Amiga, so for now MAME is as close as you'll get.







Asteroids and Battlezone (left) were the original vesctor games. Later examples featured limited colour as in Tempest (top) and Star Trek (above).

NEW...

POWER UP

AMIGA™ GOES POWERPC™

POWER UP YOUR AMIGA...

A further dimension is being added to Amigas with our new PowerPC based ***BLIZZARD POWER BOARDS*** *for A1200, A1200 based Tower Systems and A1500/2000 systems along with the new* ***CYBERSTORM PPC*** *for A3000/4000 systems. You'll now be able to benefit from performance many times beyond the speed of the fastest 680x0 based boards.*

Designed as upgrades for existing systems, **Power Boards** incorporate innovative dual processor technology where a fast PowerPC RISC processor is combined with a 68k CPU, dynamically sharing memory and system busses.

While the original AmigaOS 3.x continues to run on the 68K CPU, supporting existing applications to provide backward compatibility, the PowerPC CPU is backed by comprehensive PPC Libraries which provide the functionality to integrate PowerPC into an Amiga multitasking environment.

Software developers can easily optimise their programs, step by step, porting single tasks to PowerPC code, which then run in parallel with 68k tasks. Leading Amiga software vendors are preparing ported or optimised versions of their software packages already. It is anticipated that a large quantity of software products supporting the PowerPC will be available soon.

Power Boards will be delivered with a comprehensive suite of utilities, including the PPC library, as well as tools for creative users. Among them is a Public Domain GNU C compiler for PowerPC (including sourcecode), many demo programs and utilities with sourcecode. In addition to this software, free developer support is available via FTP site.

Last but not least, a PowerPC optimised version of CyberGraphX V3 with RISC optimised CyberGL/3D plus MPEG functions and libraries is included (along with a special GGX driver to support the AGA chipset) with full and comprehensive documentation.

	Blizzard 603e PowerBoard	Blizzard 603e+ PowerBoard	Blizzard 2604 PowerBoard	Cyberstorm PPC
PowerPC CPU	603e	603e	604e	604e
Clock Speed	175MHz	200MHz	150-200MHz	150-200MHz
Companion	68030	68040/68060	68040/68060	68040/68060
CPU	50MHz	25-50MHz	25-50MHz	25-50MHz
Est. PPC Performance	@ 175MHz	@ 200MHz	@ 200MHz	@ 200MHz
MIPS	Approx. 250*	Approx. 280*	Approx. 350*	Approx. 350*
SpecFP95	Approx. 3.1	Approx. 3.5	Approx. 7.1	Approx. 7.1
Memory Option	Max. 64Mb	Max. 64Mb	Max. 128Mb	Max. 128Mb
SIMM Sockets	1	1	4	4
SCSI On Board	Fast SCSI-II	Fast SCSI-II	Ultra Wide	Ultra Wide
Amiga Compatibility	A1200(+T)	A1200(+T)	A1500/2000	A3000/4000(+T)
Est. Availability	Summer '97	Summer '97	Summer '97	Summer '97

Blizzard 603e Power Board - A1200(+T)

The new Blizzard 603e Power Board is an inexpensive Power Up Accelerator for A1200 system owners who already have a board with a socketed full 50MHz 68030+MMU processor (these CPUs have a gold finish to the top surface) eg.50MHz Blizzard 1230-II, III, IV or similar. Featuring a 175MHz PowerPC 603e RISC CPU, the board has a socket for the 50MHz 68030, expansion capabilities of up to 64Mb high speed memory and built in SCSI-II controller.

Imagine the performance from your A1200 with this low cost board!

Blizzard 603e+ Power Board - A1200(+T)

The Blizzard 603e+ Power Board is the highest spec Power Up Accelerator for A1200 systems. Featuring a 200MHz PowerPC 603e RISC CPU, the board has a socket for a companion 68040 or 68060 CPU, expansion capabilities up to 64Mb of high speed memory and built in SCSI-II controller. This board is ideally suited to those owners who already use an accelerator with either a 68040 or 68060 CPU (ie. Blizzard 1240T/ERC or Blizzard 1260 owners or their equivalents)

If you want the BEST from YOUR Amiga A1200 - this is it!

Blizzard 2604 Power Board - A1500/2000

If you own either an A1500 or A2000 you can now take advantage of PowerPC technology with this 604e CPU RISC based board which has a socket for a companion 68040 or 68060 CPU, expansion capabilities up to 128Mb of high speed 64-Bit memory, built in Ultra-Wide SCSI controller and a high performance expansion slot for expansions such as the CyberVision PPC. This board is ideal for owners of accelerators with 68040 or 68060 processors such as the Blizzard 2040 or Blizzard 2060 owners (or their equivalents).

Want the BEST from YOUR Amiga A1500/2000? - Look no further!

CyberStorm PPC Board - A3000/4000(+T)

CyberStorm PPC is the ultimate accelerator for Amiga 3000[T], 4000[T] and systems with compatible CPU slots, offer blistering 604e performance - more than 10 times faster than any 68k based accelerator on sale today! Available with clock speeds of 150, 180 and 200MHz, the companion socket for the 68k processor accepts either a 68040 or 68060 CPU. The board provides 64-bit wide extremely fast memory expansion using pairs of standard SIMMs, dynamically shared by the two CPUs. Additionally, CyberStorm PPC comes with a DMA driven Wide ULTRA SCSI controller on board offering transfer rates of up to 40Mb/sec for even the most demanding of professional applications. A 32Bit high speed expansion connector, with DMA access to the main memory, is also provided for later upgradeability.

The 200MHz version of the CyberStorm PPC provides performance of more than 350 MIPS or approximately 8.1 SPECint95 and 7.1 SPECfp95*... breathtaking speed that goes far beyond that offered by most PC systems. In the second half of the year, an advanced graphics board will become available for the CyberStorm PPC expansion slot, providing a subset of the innovative CAIPIRINHA custom chip. By having a stand alone version of the DLRP (Display List Risc Processor), this board will offer superior display capabilities through higher VRAM-based resolutions, pixel depths and speeds, as well as the potential to begin developing software supporting the functionality of the forthcoming A\BOX system.

PRICING AND AVAILABILITY:

Options with or without 68k CPUs will allow users to fit the CPU from their existing accelerator. Delivery of Power Boards is scheduled for Summer 1997 following finalisation of CE approvals. Call now for full details.

Special prices available to existing BLIZZARD & CYBERSTORM board users

Blizzard 603e/603e+ Board...	175MHz	200MHz
with Empty 030 Socket	£289.95	
with Empty 040/060 Socket		£379.95
with 68030/50MHz fitted	£329.95	
with 68040/25MHz fitted		£429.95
with 68040/40MHz fitted		£459.95
with 68060/50MHz fitted		£614.95

POWER PC TECHNOLOGY, POWER PC SPEED and POWER PC PERFORMANCE

Cyberstorm PPC 604e Board...	150MHz	180MHz	200MHz
with No Processor	£479.95	£549.95	£629.95
with 68040/25MHz fitted	£519.95	£579.95	£669.95
with 68040/40MHz fitted	£549.95	£609.95	£699.95
with 68060/50MHz fitted	£709.95	£769.95	£859.95

**Quoted performance figures are estimations based on specifications from Motorola/IBM and are relevant to the PowerPC processor only.*
Prices Include VAT @ 17.5%.
Owners of other makes of board or those who don't already have an appropriate CPU - please call for prices.

Harwoods... always the Fastest Amiga Boards and NOW PowerPC Technology for Amigas too!

CYBER BLIZZARD SPEED

CHECK OUT... NEW LOWER PRICES ACROSS THE RANGE OF BLIZZARD AND CYBER PRODUCTS!

STILL THE FASTEST, NOW LOWER PRICED, NO ONE ELSE COMES CLOSE!

CYBERVISION 64/3D

64-Bit ENGINE A2000/3000/4000 (T Series) 3D VERSION 24-Bit COLOUR ACCELERATED GRAPHICS CARD.

For all Zorro-3 and Tower System A1200s with Zorro II backplanes.

LOWER PRICES!

The core of this great board is the VIRGE GRAPHICS CHIP from S3. With 3D capabilities, it's able to process complex 3D functions in hardware (eg. shaded & textured surfaces) with Trilinear Filtering and Shading/Fogging for super realistic Real Time 3D Rendering. When used with CyberGraphX 3D library, Cybervision 64/3D can even offer a broad range of 3D facilities for any software developer.

CyberVISION 64/3D... 4Mb Version — £139.95

MPEG Decoder - added to the Feature Connector to provide real time MPEG audio and video decoding at full size custom screens or, in Workbench windows (HQ display using 16/24Bit modes from CyberGraphX Workbench). Stereo audio output is provided via the supplied dedicated line output jack. Upgrade to a Cybervision 64/3D and MPEG bundle (from previous Cybervision 64) for a special low price! — £149.95

Monitor Switcher - with integrated scan line doubler. Designed to fit into the Amiga slot, this gives full automatic switchover from the standard Amiga signal to Cybervision 64/3D's output. Both cards may be fitted inside A3000/4000 models leaving three Zorro-III slots free. — £69.95

CYBERSTORM II

CAN BE EXPANDED TO A FULL 68060

AMIGA 68040ERC AND 68060 ACCELERATORS

You can choose between the 68040/40ERC Cyberstorm II or the ultra powerful 68060 version. When you fit a Cyberstorm II 68060 Accelerator to YOUR A3000, A3000T, A4000 or A4000T you can for example, render a graphic with Imagine 2.0 software in just 2.4 minutes! Compare that with 10.34 minutes on a standard A4000 '040/25! With no jumpers, both Cyberstorm II models are fully plug and play and, A4000 users even have the option of a SCSI-2 Module if they wish (A3000s already have SCSI built in).

- Up to 128Mb of standard SIMMs can be installed and you can even transfer the 72Pin SIMMs from your Amiga A4000 straight onto your new Cyberstorm.
- Optional SCSI-2 Module
- If your budget currently only covers the cost of Cyberstorm II 68040ERC, you can always upgrade later to the full 68060 processor for the extra power!

LOWER PRICES!

Cyberstorm II 68040/40 40MHz 68040ERC - 0Mb, Expandable to 128Mb	£239.95
Cyberstorm II 68060/50 50MHz 68060 - 0Mb, Expandable to 128Mb	£389.95
Cyberstorm II SCSI-2 Module	£69.95
Cyberstorm II SIMM RAM Expansions (Please call for a range of SIMM prices)	£Call

1240T/ERC TURBO ACCELERATOR MEMORY BOARD

A1200T* TURBO ACCELERATOR and MMU/FPU for *TOWER SYSTEMS

40MHz 68040 - 0Mb Standard, expandable to 128/256Mb

30MIPS with 60 Nanosecond SIMM fitted.

CAN BE EXPANDED TO A FULL 68060

A super LOW COST A1200 Turbo Accelerator Board, ideal for housing on any *Tower System A1200 main board (mechanical dimensions, high power consumption and heat emission require an active cooling cap, we therefore do NOT recommend fitting to standard A1200s without the appropriate modifications etc.). The "ERC" Processors used on these boards are recycled and vigorously tested 68040 CPUs operating at 40MHz with MMU/FPU - an excellent guaranteed and competitively priced alternative. Available options such as the SCSI-IV Kit and RAM are shared with the Blizzard 1230-IV and 1260.

LOWER PRICE!

Blizzard 1240T/ERC Turbo 40MHz 68040 and MMU/FPU, 0Mb 32Bit Fast RAM, exp. to 128/256Mb — £199.95

2040ERC TURBO ACCELERATOR MEMORY BOARD

A1500/2000 TURBO ACCELERATOR and MMU/FPU

40MHz 68040 - 0Mb Standard, expandable to 128Mb

30MIPS with 60 Nanosecond SIMM fitted.

The Blizzard 2040ERC is a super LOW COST board which offers A1500/2000 owners the opportunity to upgrade to the same performance as the Blizzard 1240T/ERC Board. Users will then be able to enjoy full A4000/040 power as well as take advantage of the built in SCSI-2 interface. The "ERC" Processors used on these boards are recycled and vigorously tested 68040 CPUs operating at 40MHz with MMU/FPU - excellent guaranteed competitively priced alternative.

CAN BE EXPANDED TO A FULL 68060

Blizzard 2040ERC Turbo
40MHz 68040 and MMU/FPU, 0Mb 32Bit Fast RAM, exp. to 128Mb — £249.95

LOWER PRICE!

1260 TURBO ACCELERATOR MEMORY BOARD

EASY TRAPDOOR INSTALLATION... No modification necessary. Reliable low heat output.

A1200 TURBO ACCELERATOR and MMU/FPU

50MHz 68060 - 0Mb Standard, expandable to 64/192Mb

38.71MIPS with single sided 60/70 Nanosecond SIMM fitted.

Offers Amiga A1200 owners FULL 68060 POWER with a board that simply plugs into the trapdoor slot. Your A1200 will then operate at TWICE or even THREE TIMES THE SPEED of an '040 based upgrade and up to FIVE TIMES THE SPEED of a standard A4000! Available options such as the SCSI-IV Kit and RAM are shared with the Blizzard 1230-IV and 1260.

Blizzard 1260 Turbo 50MHz 68060 and MMU/FPU, 0Mb 32Bit Fast RAM, exp. to 64/192Mb — £319.95

LOWER PRICE!

2060 TURBO ACCELERATOR MEMORY BOARD

A1500/2000 TURBO ACCELERATOR and MMU/FPU

50MHz 68060 - 0Mb Standard, expandable to 128Mb

38.71MIPS with 60/70 Nanosecond SIMM fitted.

Offers Amiga A1500/2000 owners the same specification as the remarkable Blizzard 1260 Turbo (A1500/2000s will operate at up to FIVE TIMES THE SPEED of a standard A4000) with FULL 68060 POWER and also includes built in SCSI-2 interface!

Blizzard 2060 Turbo
50MHz 68060 and MMU/FPU with SCSI-2, 0Mb 32Bit Fast RAM, exp to 128Mb — £429.95

LOWER PRICE!

1230-IV TURBO ACCELERATOR MEMORY BOARD

EASY TRAPDOOR INSTALLATION... No modification necessary. Reliable low heat output.

A1200 TURBO ACCELERATOR and MMU

50MHz 68030 - 0Mb Standard, expandable to 128/256Mb

9.91MIPS with 60 Nanosecond SIMM fitted.

The highest performing 68030 Accelerator available for your A1200. With its 50MHz 68030 and MMU, the 1230-IV offers BETTER PERFORMANCE at a LOWER PRICE. With a SysInfo rating of 9.91 (using a 60 n/s SIMM) you can see the 1230-IV is very fast... a performance gain of up to 500% is achieved! Via its Fast Expansion Bus, an optional SCSI-2 Controller module can easily be fitted. An industry standard SIMM socket provides for up to 128Mb of auto-configuring 32Bit Fast RAM (up to 256Mb with the SCSI-2 option using its extra SIMM socket).

LOWER PRICES!

Blizzard 1230-IV Turbo 50MHz 68030 and MMU, 0Mb 32Bit Fast RAM, exp. to 128/256Mb	£89.95
Fast 60 Nanosecond SIMM RAM Expansions - 32Bit, 72Pin	£Call
Motorola Maths Co-Processor - 68882 PGA type FPU, 50MHz	£39.95

MOTOROLA MOTIVATED

Blizzard and Cyberstorm products use MOTOROLA 680X0 and PowerPC series processors. They run **WITHIN** the electrical timing specification laid down by Motorola to prevent any possible overheating/reliability problems. So, when you pay for a 50MHz CPU for example, that's exactly what you get... not a 40, 33 or even a 25MHz CPU "clocked" to 50MHz! Look out for the **MOTOROLA MOTIVATED** logo - your guarantee of our commitment to quality and reliability - **BEWARE** of "clocked" CPUs! T/ERC and ERC processors used on selected boards are recycled and vigorously tested 68040 CPUs operating at 40MHz - an excellent guaranteed and competitively priced alternative.

BLIZZARD SCSI-IV KIT

SCSI-2 MODULE for 1230-IV, 1240T/ERC & 1260, & ADDITIONAL 128Mb SIMM SOCKET

(Fast SCSI-2 DMA Controller - upto 10Mb/s transfer rates with additional SIMM socket/extra RAM)

Blizzard SCSI-IV Kit — £59.95

What the Magazines think...

Blizzard products have consistently achieved the highest magazine accolades and awards!

Amiga Shopper *"...1260 is destined to become the ultimate object of desire for A1200 owners."* - **91% STAR BUY Award**

Amiga Computing *"...If you want the fastest Amiga in the World, get this board."* - **92% BLUE CHIP Rating**

Amiga Format *"...Ride on the fastest A1200 in the World..."* - **95% GOLD Rating**

GOLD · AMS READER AWARD · AMIGA SUPERSTAR · Star Buy · BLUE CHIP AWARD · TOP RATED

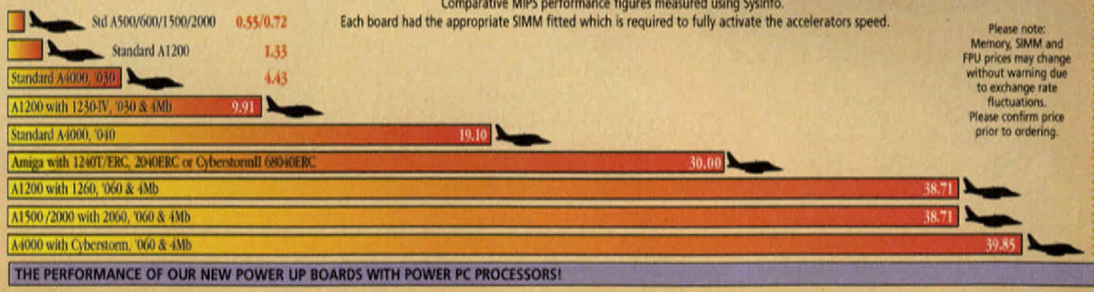
OUR RANGE HAS WON MORE AWARDS THAN ANY OTHER

1230-IV, 1240T/ERC and 1260 FEATURES

- May be disabled with simple keystroke on boot up - for full games compatibility, even badly programmed/older software
- Battery backed self re-charge Real Time Clock
- High performance expansion with full 32Bit wide DMA
- Easy trapdoor installation - no modifications required (1240T/ERC fits in Tower)
- 1230-IV features PGA FPU socket allowing optional 50MHz 68882 FPU

JUST COMPARE THE PERFORMANCE FIGURES FOR YOURSELF!

Comparative MIPS performance figures measured using SysInfo.
Each board had the appropriate SIMM fitted which is required to fully activate the accelerators speed.



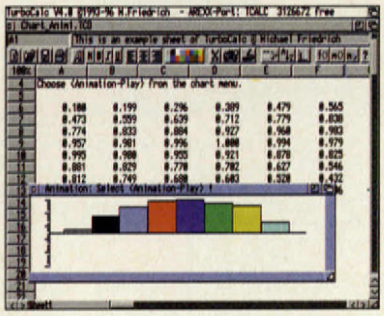
Please note: Memory, SIMM and FPU prices may change without warning due to exchange rate fluctuations. Please confirm price prior to ordering.



The Year that

It was the best of times, it was the worst of times... **Nick Veitch** lived through them all.

Last year had more than a few ups and downs, but it was certainly eventful. Cast your mind back with us, to a time when the PowerUp board was an ambitious pipe-dream, Viscorp were still saying they owned the Amiga and there were no interesting games on the horizon...



The ever-wonderful *TurboCalc 4* struck gold in February.



***Tiny Troops* was a strategic hit for Vulcan earlier in the year.**

Jan AF93

We started off the year with a bang by giving you a full version of the excellent *OctaMed 6*.

The news was dominated by confusion. There was a spate of resignations at Viscorp, the company which was then bidding for the ownership of the Amiga. Legendary Carl Sassenrath left because he became disillusioned with Viscorp's plans for the Amiga. He was followed by press officer Jason Compton.

Quikpak stepped into the frame as a more likely candidate to clinch the deal. With enough real money behind them and a sound knowledge of the Amiga market, they looked like a good bet.



***Draw Studio* proved to be surprisingly good, and started the year with a 94% *AF* Gold.**

On the games front, *Chaos Engine 2* appeared, but was a bit of a disappointment. It failed to win Gold, with a score of just 85%. That might have been good by other standards, but not what we expected from the Bitmap Brothers.

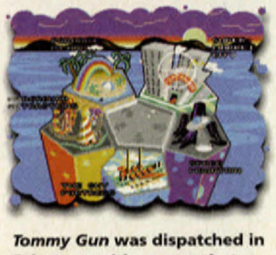
On the serious side there were Gold's galore for *CyberSCSI*, *Wordworth 6 Office* and the excellent *Draw Studio*, of which Mr Kennedy said, "It's powerful, well supported and an absolute bargain at the asking price (£59.95)" before awarding it 94%.



***Chaos Engine 2* failed to live up to expectations, but was a lot better than most games in early '97**

Feb AF94

We wondered what could possibly happen next for the Amiga. Leading industry figures gave their opinions on they thought what was likely to come out of the liquidators bidding process, but nobody guessed about Gateway.



***Tommy Gun* was dispatched in February, with a score that failed to inspire.**

The games scene was a bit dire this month. Although Andy Smith conducted an interview with Guildhall about all the games they were keen to re-release, only two other games were reviewed. Neither of them scored more than 50%.

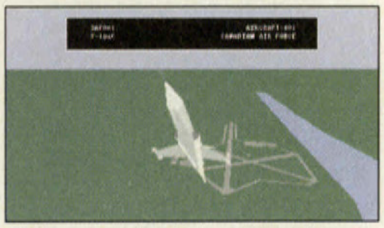
Things were looking up on the serious side though, as the *SX-32*, *Turbocalc 4* and Gold winning *PPaint 7* were released. Our Blitz tutorial series also ended it's year long run (and two months later we started getting requests to run a Blitz tutorial!).

This issue we also launched our appeal for you to write long term tests. Many of you have written in, but keep those reviews coming!

Mar AF95

This month we confidently predicted that an end was in sight for the ongoing ownership saga. Quikpak had submitted a final bid and the liquidators deadline was drawing near.

In other news Carl Sassenrath announced that he was to program a new operating system called LAVA (now called REBOL).



The super hi-tech jet fighters of *Jet Pilot* were good, but not golden.

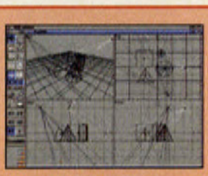
Andy Smith got to review what had been billed as the most comprehensive Jet fighter simulation on the Amiga ever, *Jet Pilot*, but it ejected early with a score of 65%. *Tiny Troops* fared much better with the best score so far this year, with a score of 88%.

On the serious side, *Lightwave 5* proved to be a big disappointment, scoring just 58%. Part of the reason for this was the steeply rising price – at £1200, Ben reckoned it just didn't deliver. Thankfully, the Siamese system fared better, and finally won gold with a score of 93%.

We also gave you the full version of TurboCalc 2.1!

April AF96

Personal Paint 6.4 was the package everyone wanted to get their hands on this month – because we gave it away free with this issue! We also started one of the most popular (if you judge by how many letters we received) tutorials – learning how to use *PPaint*!



***Cinema 4D* was more impressive than it seemed at first glance.**

Gasteiner and Amiga Technologies announced that they would be joining forces to promote one big show, and the date was set for May 17. Rumours also first appeared that iD were considering a *Quake* conversion for the Amiga!

Reader Robert Benjamin won £50 for his reader game submission, *Fred the Frog*. It was the first in a series of games that this, er, modern genius would produce.

***Cinema 4D3*, *TurboPrint* and Online PD's modem pack all won Golds this issue. Ben reckoned the growingly popular *C4D* was "a cracking package for beginners and experts alike."**



May AF97

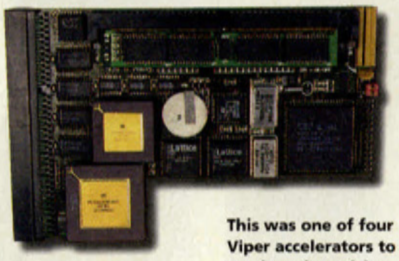

It's *Myst*. But on the Amiga. Well, it was more the promise of *Myst* actually.

We just had time to sneak the biggest news story of the year into this issue – the Amiga had been sold! Most surprisingly, the "winner" of the liquidation contest was Gateway 2000 – a company nobody even knew was interested!

The big games news this month came from an interview Andy Smith conducted with Alexander Petrovich from ClickBOOM. In it, Alex stated that ClickBOOM would be producing an Amiga version of the incredibly popular game *Myst*.

Weighing in with Gold awards this month were *Pagestream 3.2*, *MakeCD2.1*, *RDB-Salv* and *Directory OPus 5* (which scored a massive 96%).

June AF98

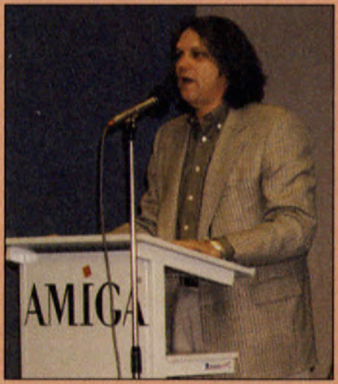

This was one of four Viper accelerators to receive a hat-trick-plus-one of *AF* Gold awards in June. Impressive stuff.

We took a big long look at the games scene this month. Although releases so far during the year had been generally disappointing and in short supply, we discovered there was an awful lot to look forward to. As well as titles like *Final Odyssey* and *Genetic species* from Vulcan, we were also looking forward to some games from people we'd never heard of – PURE design, Black Blade and the newly incarnated Islona. *The Big Red Adventure* became one of the best scoring games of the year when it clocked up a surprising 86% for its publishers, Power Computing.

Power themselves were probably surprised by a quadruplet of Gold awards for their new range of accelerator cards, including the 97% scoring Viper Mark V.

July AF99

The first statement from Gateway about the Amiga was received with reserved optimism at the London World of Amiga Show. The show proved to be very popular with visitors and exhibitors alike, as the Novotel was absolutely crammed for the duration.



Gateway 2000 promised a bright new future for the Amiga at the Novotel.

ClickBOOM also announced that they would be developing PowerPC compliant versions of their forthcoming games.

***Testament* broke the drought of Gold awards on the games front when it scored 92%. It was the first game we had known to keep Andy Smith at work once the pubs were open – "Testament is an excellent game. I've found it very difficult to stop playing it..."**


It kept Andy Smith from the pub – that's some *Testament* (above) to its appeal.

Aug AF100

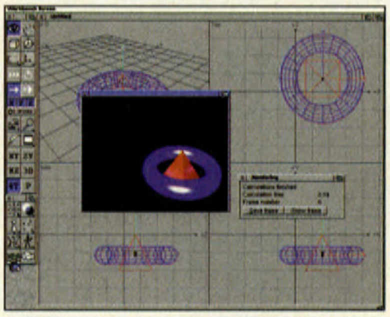
There really was plenty to celebrate this month. The Amiga had a new owner, we had reached 100 issues, it looked like England had a chance of winning the ashes... (ahem). As well as all the usual stuff you have come to expect, we had a special, and controversial, feature on the best games, hardware, software and PD available to mankind.

In games news, *Nemac IV* scored a terrific 93% and a well deserved Gold award. Many man-hours were lost in the office because of this one (and before feminists write in to complain, it was only the male members of the team who played it).



Nemac IV **is terrific. No wonder it scooped an** ***AF*** **Gold and the highest games score of '97.**

On the serious side, Ben gave *Surface Effectors* and *Cinema 4D CD* Golds, and I slapped one on the *Catweazel* before we took to our beds nursing huge hangovers.


Cinema 4D **popped up again – this time on CD to win more awards.**

Continued overleaf ➡

Sep AF101

New Amigas! Well, they were still the same Amigas, but now available in tower cases from MicroniK. Index International also gained a license from the newly formed Amiga International to produce their own Amigas.



***The Hidden Truth* was creepy and spooky, something and kooky – and it became the best paranormal CD of the year.**

Andy Smith had an early look forward to some games then in development, including *Shadow of the Third Moon, Genetic Species* and *Sixth Sense Investigations* – shortly before he dished out 35% to *Pro Tour '97*. Robert Benjamin was back with *Hamburger Heaven*, but it lacked the sparkle of his earlier efforts.

On the serious side of things, Dave Taylor took a look at what was then the fastest Amiga around, thanks to the Apollo 1266 card which used a 66MHz '060 processor.



Is this the Amiga of the Future? It's one of the suggestions MicroniK were putting forward back in September.

Oct AF102

We invited you to Take Over TV and spotlighted the work of Dale Hemmenway, who produced an Amiga animation for Central TV, recently aired in that region.

Gateway and Righttiming fell out over who had the rights to the far East, proDAD produced the pre-release version of their replacement operating system, p.OS and Sadeness announced that they were the new publishers for the forthcoming games *OnEscapee* and *Foundation* (previously known as *Scions*).

Simon Goodwin took a look at AHI, and also pronounced the Prelude sound card "good" with a 90% Gold award. Elsewhere, *Art Effect 2* missed out on Gold, losing points for being a tad too buggy.

We also took a look at the first MicroniK tower to arrive in the UK.



Maybe your work isn't quite up to the standard of Ron Thornton's T-bird, but you could still make a splash on TV.



MicroniK's new towers certainly looked impressive, and we got the first one in the UK!





More and more great games kept appearing throughout the year. *OnEscapee* was one to look forward to.

Nov AF103

As the year was drawing to a close, we pulled off the sound scoop of the decade, featuring CD audio tracks from Aphrodite, Coldcut and Allister Brimble, as well as our own John and Darren. The feature itself seemed to go down well with musicians, and even sparked some interest from music mags like *The Band*.

We also reviewed the excellent *Soundprobe* from Hisoft, but *Draw Studio 2* was the product of the month, gaining a prestigious *AF* Gold for it's cunning new features.

This month we also began our exclusive and interesting work in progress feature on Foundation – it's nearly ready now, we promise.

Dec AF104

Amiga Format, being the great people we are, created the first software for the Kodak range of digital cameras, just so that you wouldn't be excluded from the latest range of gizmos.

The Kodak DC20 and DC25 will now work with your Amiga, and many more cameras are now becoming Amiga compatible.

We also featured the C compiler DICE on this month's CD, and ran a tutorial on getting it started. C programming seemed to be the hot topic of the month, with news of the imminent release of Hisoft's Maxxon C++ and a review of Storm C in the same issue.

Gameswise, *Cygnus 8* and *Master Axe* disappointed, but re-released oldies *Dune II* and *Cannon Fodder II* did well. Epic had no less than five forthcoming titles mentioned in previews.

Our mammoth software review of *Fusion* also featured in this issue. If you want more of this type of feature, then please write in and let us know.



Top Mac applications. But on the Amiga. Microcode's *Fusion* got a very thorough going over.

Highest scoring serious product:
Viper Mk V

Best game:
Nemac IV

Most Gold awards:
Power Computing

Pages of Amiga Format this year :
1508

Most letters about:
Upgrading

Best-selling issue:
AF100

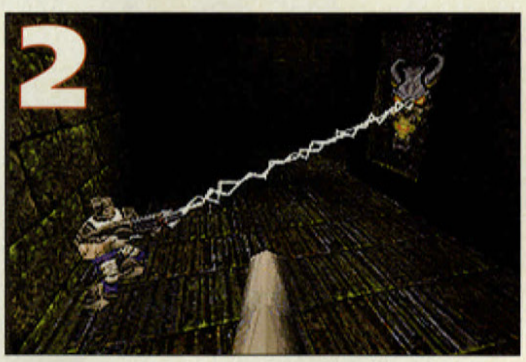
The Year ahead...



With all that going on, it's a wonder anyone is brave enough to predict anything for the next twelve months. But we'll give it a go. And just remember – last year, every single one of our predictions came true!



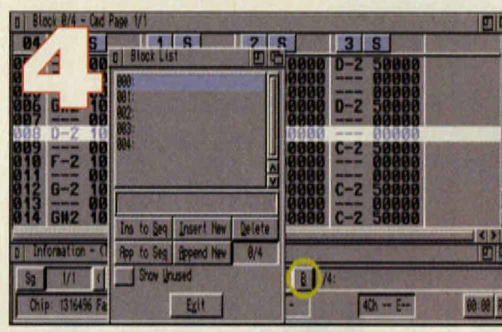
Myst will be released on the Amiga. Okay, there isn't much crystal ball-gazing going on here. It will almost certainly appear in the first quarter of the year.



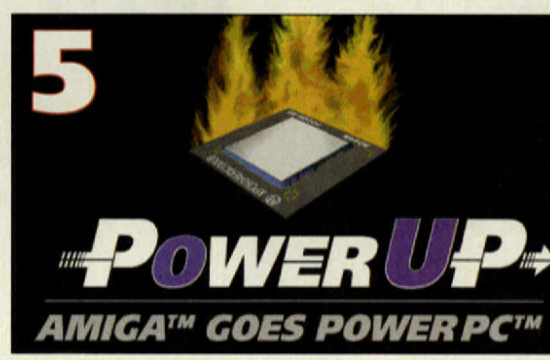
Quake will appear on the Amiga. That surprised you didn't it? We confidently predict that it will appear, probably in PowerPC and 68k versions, and sooner rather than later.



Oh, hello, it's a big one. Workbench 4, or at least an interim version, will appear in the first half of the year. Also expect to see other operating systems become available, such as p.OS, REBOL, and perhaps even one from Phase 5.



You will see a new version of *Octamed.* Ray Burt Frost and Teijo Kinnunen have made no secret that they are working on it. We think they will finish it, and that it will be out before winter.



PowerPC ready Amigas will be produced. They may not be pretty, but sooner, rather than later, tower Amigas with pre-installed PPC chips will be released.

6 Other software you are likely to see: *StormC 4, Art Effect 3, Foundation, Cygnus Ed 2*, new versions of *Ibrowse, AWeb, Voyager, Miami*, and everything else to do with the internet.

7 Of course, you will also see 13 more issues of the world's best-selling Amiga magazine. See you then!





AMIGA FORMAT *Christmas Crackers*

"'Fangs for the memories', said Vlad as he impaled another maiden on his teeth... (worth £90)"

If you'd like to win this very limited edition, 40th anniversary of the Hammer House of Horror, 27cm high porcelain Dracula modelled on Christopher Lee, courtesy of the weird guys on Future's SFX magazine, send a postcard to:
AF SFX draw, 29 Monmouth Street, Bath BA1 2BW



SCREENPLAY

The latest games, the handiest hints and some clever programming from you!



This will be the art department's idea of Yuletide japery then. Very nice. This is a time for celebration though, because we had several full games to review this month and one of them's really rather excellent. Check it out when you've read through the Previews pages because there are some games there that look like they could be crackers – and I don't mean mad. It's been a difficult year for Amiga games and though things don't look like they're about to explode, it's worth noting that the number of games being released is on the increase. One thing we have to do now is ensure the quality of new releases stays high. This is where you come in. Vote with your wallets and don't buy rubbish. Merry Christmas and stuff...

Andy Smith

AMIGA FORMAT'S REVIEW POLICY

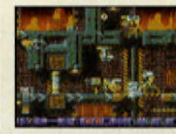
WHAT OUR REVIEW SCORES MEAN

Every month we scour the world's software houses for the latest and greatest Amiga games. We try to ensure we keep you as up to date as possible and we'll stop at nothing to bring you the best, definitive, no-nonsense reviews of the games that matter.

90+%	The crème de la crème. Only the very best, most playable and original games are awarded an AF Gold – the most highly prized rating there is.
80-89%	These games are very good, but due to minor flaws are not the finest examples of their genre.
70-79%	Good games which are worth buying, especially if you have a special interest in a game type.
60-69%	Average releases with somewhat limited gameplay and appeal. Games in this category tend to be flawed.
50-59%	Below average games which are unlikely to impress your mates or your wallet. Avoid.
40-49%	Overwhelmingly poor quality games with major flaws and appalling gameplay.
Under 40%	The absolute pits.

Previews






The latest news and pictures of all the big games due for release soon. Andy Smith's our man with his ear to the ground...

Mobile Warfare



Mobile Warfare £14.99
Release Date: ....Christmas '97
Epic Marketing ... 01793 490988
Fax: 01793 514187
email: .epicmarketing@dialin.net



The Blue Army (Blue Army! Blue Army!) line up to face the wrath of the Red Army at the start of a Mobile Warfare scenario.

Those that like their games to be a bit of a cerebral challenge will be pleased to learn that there's a new wargame in the pipeline.

It's a mission-based affair with your post commander giving you your objectives and troops at the start, then it's down to you to finish the job. It's also a turn-based sort of game, but only sort of.

Moving troops around the battlefield simply involves clicking on a compass to the side of the screen, and whenever an enemy unit is encountered, the combat begins immediately. This does mean there's a great deal of scope for tactics because you can only move one unit at a time. To co-ordinate your infantry and armour attacks on a single unit therefore takes some extremely careful pre-planning.

Deciding which troops to send where is going to take some thought as well because every unit has an attack strength, defence strength and a set number of movement points. Putting your rifle infantry in front of the enemy's advancing tanks might not be such a good idea...

This is going to be a one or two player game, with enhanced computer AI available if you have to play it by yourself. It will give the player some 20 different units to control, depending on the scenario being played at the time.

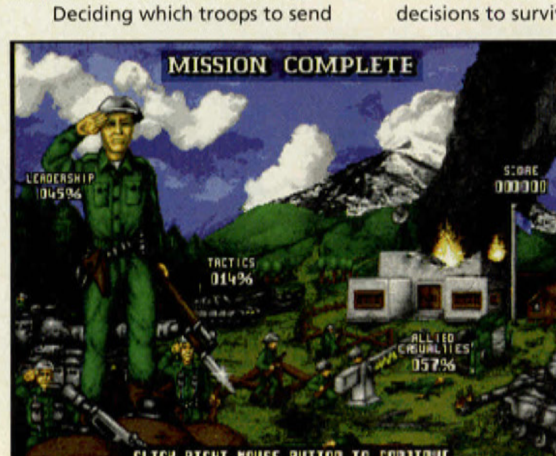
Extra units can be purchased and can join in the fight simply by clicking on the barracks, but your choice of unit is limited not only by the amount of money you have but by the scenario. With air support to be purchased as well you're going to have to make some informed decisions to survive this war.

Watch out for a full review soon because Epic tell us the game's going to be out around Christmas '97, it will cost £14.99 and comes on floppy disk. Now then, where's me beret..?





The forces come together (top). If you need some reinforcements and you've got the credits you can buy some. Like the nice tanks on the left here.



That's what you're going to want to see. Hmm, it seems a bit low on the tactics score though.

The Games Room



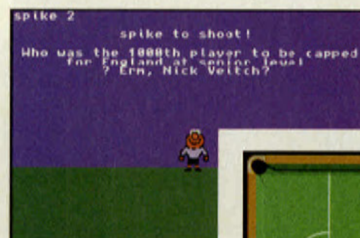
Kingpin is just one of several originally full-priced games you'll find on this new compilation from Epic Marketing.

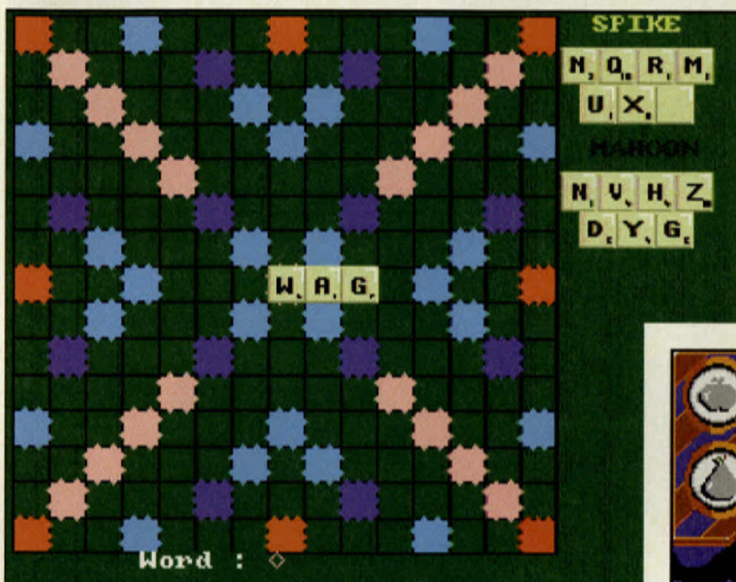
Also from Epic is this rather neat PC/Amiga CD featuring some 200-odd Amiga games. There are previous full-price releases such as *Kingpin* (the Team 17 bowling game) as well as the standard *PD Chess, Mah Jong* and various assorted board games.

The CD is split into several sections, ranging from pub games (pub darts, dominoes, that kind of thing) to Workbench games (including *Battleships* and *Connect 4)* all the way down to Mind/Quiz games (where you'll find such delights as *Code Finder, Jelly Othelly* and *Soccer Quiz*). There's plenty here to keep everyone happy and at only £12.99 you'd have to be pretty stingy not to have it in your collection.

The Games Room	£12.99
Release Date	Out Now
Epic Marketing:	01793 490988
Fax:	01793 514187
email:	epicmarketing@dialin.net

Continued overleaf ➡





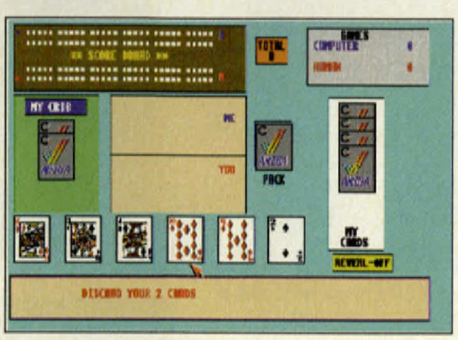
Scrabble. A fine game that's best played on a computer because all those tiles become a real nightmare when the cat decides to lie on the board.



Everyone likes a nice game of pool and that's just what you can play on this compilation. Now, two in off the break...



Although I don't understand it myself, some people seem to love playing fruit machine simulators (win all that CyberMoney™). There are loads to choose from here.



When it comes to card games, well just how many versions of Klondike would Sir like? And Cribbage? Certainly.



AMIGA FORMAT Christmas Crackers

"How many virtual pets (worth about £30) does it take to screw in a lightbulb..?"

You don't know how hard it is to get Tamagotchis for competitions. We managed to prise three out of Bandai to give to you for Christmas, so if you'd like one send a postcard to: *AF* Tamagotchi draw, The Wright Partnership, 58a Waldeck Road, London W4 3NP

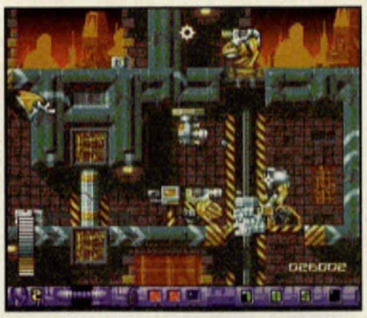


Desolate

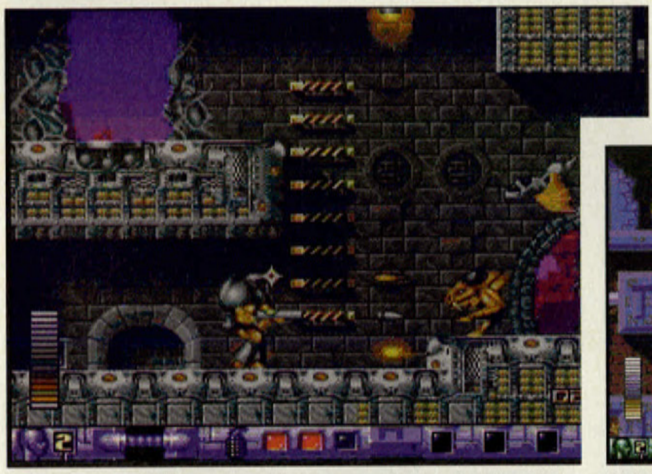
Desolate	£TBA
Release Date	TBA
Weird Science	0116 2463800
Fax:	0116 2463801
email:	www.weirdscience.co.uk

Vulcan continue apace with their Mega CD range (and after such games as *Uropa 2*, we say thank goodness! Rush to the review once you've finished here...) and so have a couple of new games to add to it.

The first is this platform game featuring puzzles, shoot-em-up action and a little bit of adventuring too. Just what else is involved is a bit hazy at the moment, but rest assured we'll be doing a full preview just as soon as more information becomes available. Meanwhile, we just had to show you the pics so you could see how well it's all progressing. Oh, and if you're wondering why Vulcan have produced the game and Weird Science are selling it, then you're going to have to read the *Uropa 2* review. So there.



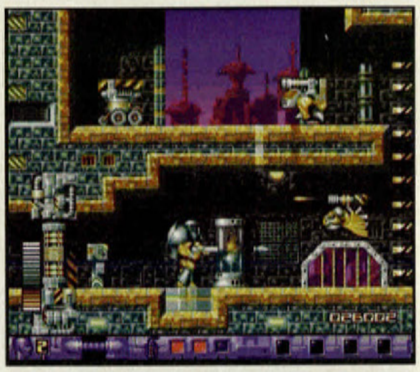
Quite what's going on here is beyond us. Give us a chance to play the game and everything will be much clearer – mark my words.



I reckon you'll be that bloke in the middle of the screen just about to shoot that big brown nasty monster-type thing on the right. Makes sense really.



But it's not all shooting, there are puzzles to be solved and traps to be avoided. So Vulcan say.



One thing's for sure though, we haven't had a platformer that looks this good for a while. Here's hoping the gameplay lives up to expectations.

Hard Target

Hard Target	£TBA
Release Date	TBA
Weird Science	0116 2463800
Fax:	0116 2463801
email:	www.weirdscience.co.uk

Another game that Vulcan are producing is this *Virtua Cop* (but on the Amiga) clone. Again, details are very scant at the moment but as you can see, it certainly looks like a *Virtua Cop* game. More news on this when we get it, and that's sure to be followed by the definitive review. One thing we do know is that Vulcan are working on their own lightgun specifically for the game. We'll give you the details as they become available and so again, enjoy...



They may be Polizei, but if anyone points a gun at me and I'm armed, I'm gonna fire back...

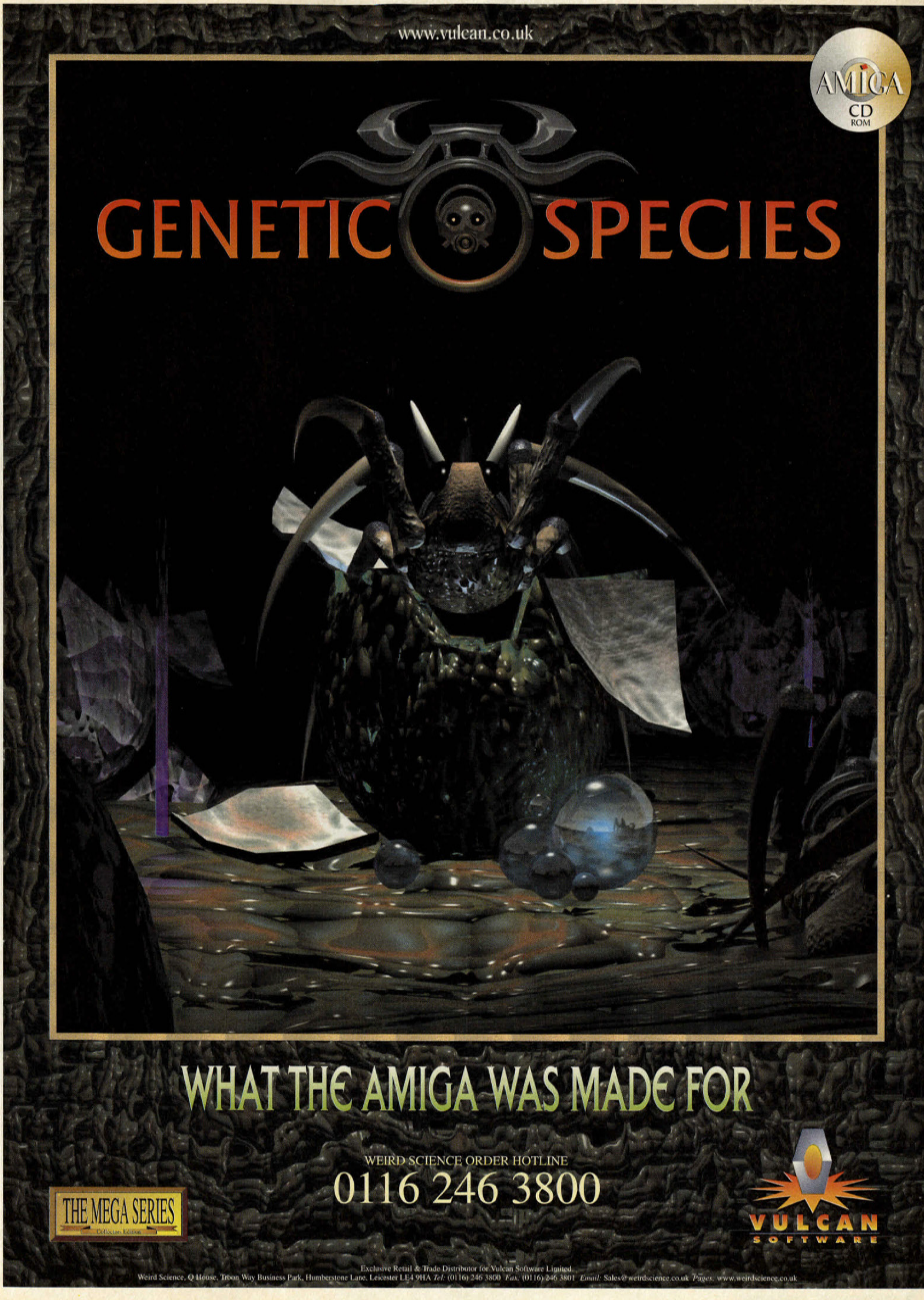


Even though this running bloke doesn't have a circle round him I'd blast him for looking at me in a funny way and running like a girl.





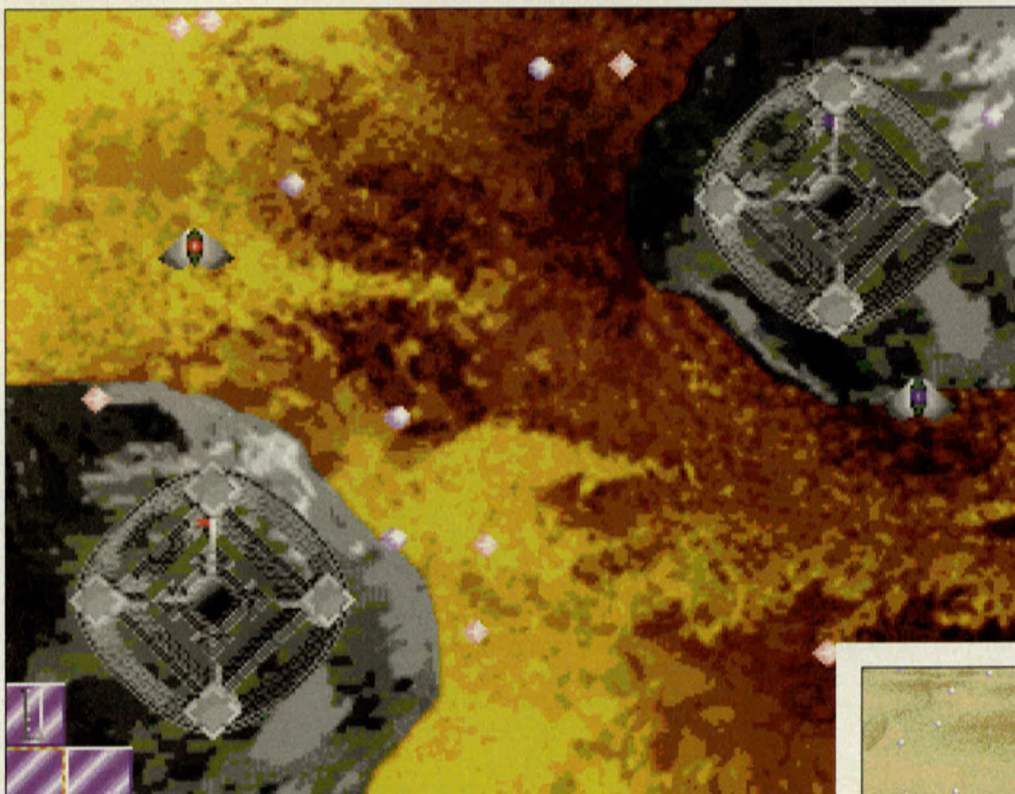
Quick! Shoot the bloke with the circle round him! No, the other bloke with the circle round him! Just imagine playing this with a lightgun – cool eh?



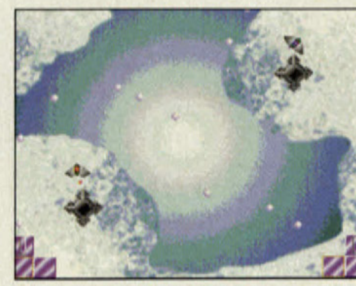
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Nemeses

Space craft collecting balls of magic energy? Andy Smith nods sagely and picks up his trusty Speedking...



Level four castles on a volcanic landscape. Sporadic eruptions and enemy action are detrimental to the castle's defences.

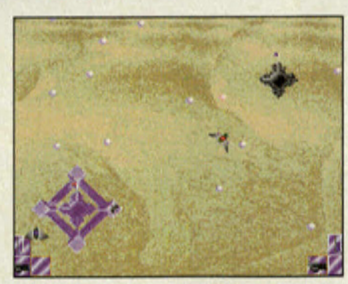


Level one in the Arctic and both spaceships whizz around looking for magic pills.

Nothing surprises me when it come to games these days, especially the wacky storylines that the developers come up with. Here you've got a couple of magic users (imaginatively called Red and Blue) battling to destroy each other. There you go, a nice and simple storyline for a change.

> "...quite simply, the more balls you collect, the porkier the weapon you're going to be able to use."

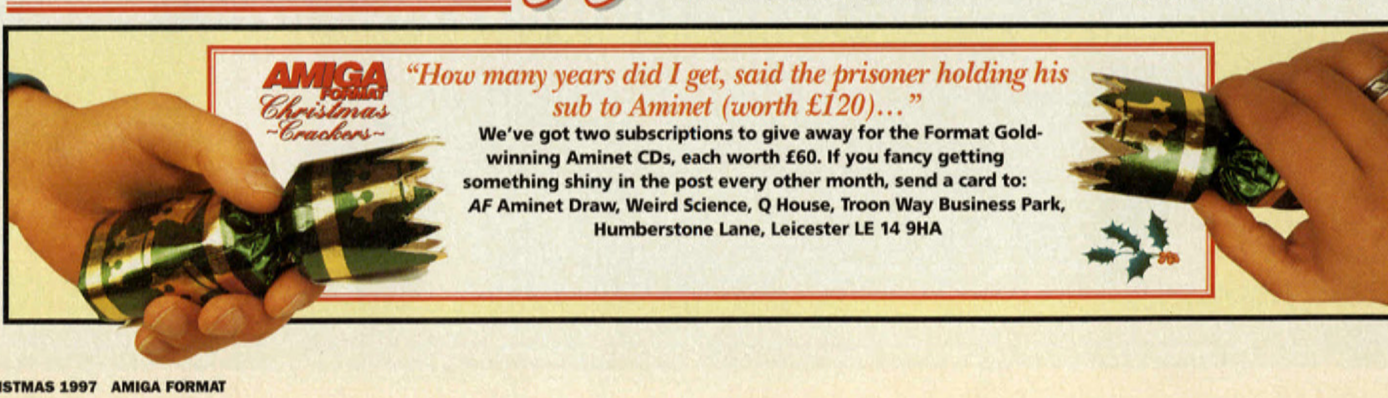
It's a one or two player game in which both players attempt to destroy their opponent's castle, which are placed on the screen diagonally opposite each other. No surprise there then. The game is played by flying a small space craft around the screen in an attempt to collect little balls o' magic. When a ball is collected, it disappears and is added to the player's reservoir which is displayed at the bottom of the screen and is colour coded so each player knows how many balls he has saved up. When enough balls have been collected the player can fire at the enemy's castle.

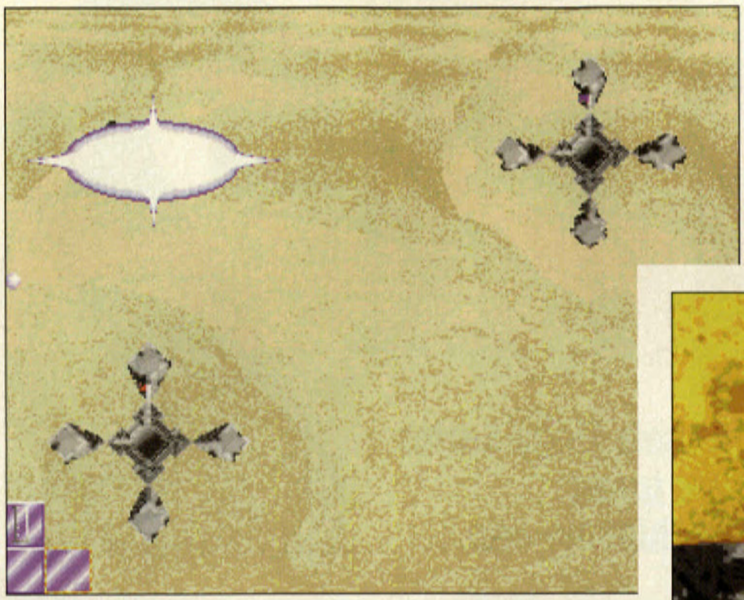


Save up enough magic pills and you can put a shield right around your castle. Unfortunately, it doesn't last very long.

But just what sort of weapon do you want to use? Well, quite simply, the more balls you collect, the porkier the weapon you're going to be able to use. A modest 10 balls collected allows a cannon to loose off a salvo while a hefty 30 collected before opening fire enables the player to let rip with a rather tasty laser cannon.

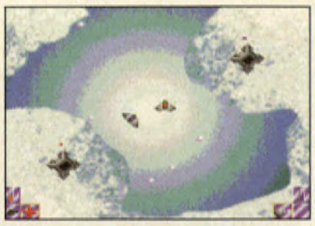
Obviously, the more powerful



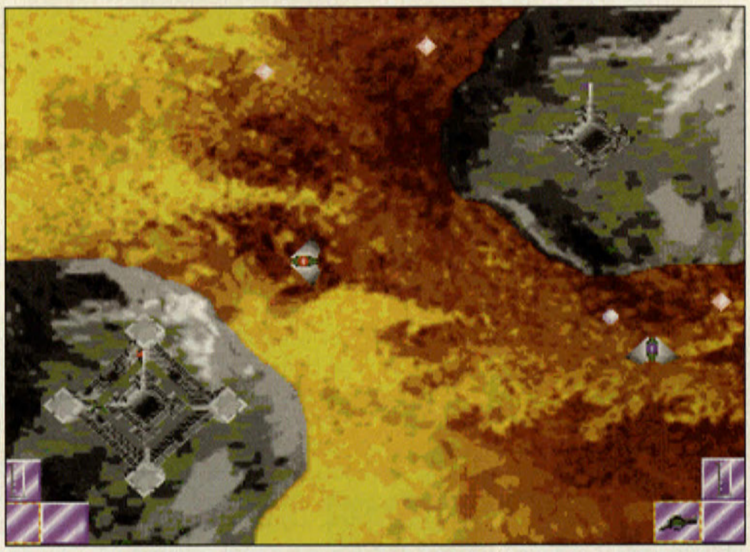


A level two spaceship collides with a level one spaceship and obliterates it. If both ships were level two craft, they'd merely bounce off each other.





Earthquakes occur in the desert that can damage your castle – much like the eruptions that happen on the volcanic levels. The only 'safe' landscape is the arctic one.



Once you're beyond level one you'll see specially coloured magic pills. Go for these straight away because they're worth five times an ordinary pill. Then go and blast the other guy.

the weapon, the more damage you're going to inflict on the other player's castle.

Knowing when to open fire and when to continue collecting balls o' magic is crucial, as is knowing when to switch from the offense to defence. Hit a key during play and instead of your magic filling the attack reservoir, they fill the defence reservoir. Now when you hit the fire button your castle is repaired a little. Again, if you collect loads of magic before hitting the fire button you can repair your castle a lot more than if you go for it as soon as you can.

And what happens when all the magic balls have been collected? As soon as someone gobbles the last one, the screen is immediately filled up with them again and this just keeps happening until one of the castles is destroyed.

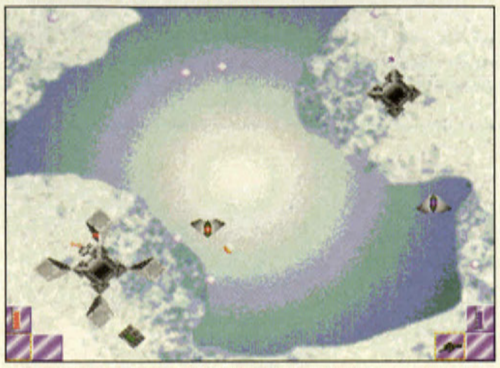
And it takes a while to destroy a castle, especially on a higher level (there are up to five of them) because the higher the level, the more protection – in the form of walls – the castles have and the more damage they can sustain.

Fortunately, as you step up through the levels it becomes much easier to collect magic because special balls appear that are worth five times as much as ordinary ones. Even in a level five battle the bout can be over in a couple of minutes if you manage to collect enough of these.

Your space craft also come in different varieties. There are only three kinds, but the second and third class of craft have the ability to fire at the other player's collecting craft (you can opt to fire at the other player's craft by saving up loads of magic and waiting for the correct icon to come up before pressing fire).

It's also handy to upgrade your craft because if two craft of the same class collide on screen then they simply bounce off each other. If you've got a higher class craft than your opponent then you can ram into it and destroy it. It is then placed back on the screen at a random place and downgraded, unless it's already down to a class one.

There are two playing modes too: tournament and erm, not tournament. A tournament is a best out of nine fight over randomly picked landscapes whereas, well, a non-tournament starts on level one on some landscape or other and you attempt to work your way up to level five for that landscape (and subsequent ones should you manage to win) by consistently defeating the computer.



The blue player's in trouble. Now would be a good time to switch from offense to defence and build the castle back up again.

There's just the final bit about the landscapes to tell you. On the desert and volcanic battlegrounds your castle can become damaged by the landscape itself.

In the desert, random earthquakes occur which can knock your castle about a bit if they manage to hit. The same thing happens on volcanic landscapes except this time it's eruptions that do all the damage.

> **"This isn't quality software... there's just so little to the game you'll find it wears thin very quickly indeed."**

And that's about all there is to Nemeses. Not a lot really.

This isn't quality software (which is also being sold by Epic as part of a compilation, although F1 have the exclusive rights to sell the game as a stand-alone product).

Sure it's a ten-minute giggle with a mate, but there's just so little to the game you'll find it wears thin very quickly indeed. Don't get me wrong, the programming's fine – everything works as it should and there are no glaring glitches but it's just so shallow. Even for a measly £10.74 (the game's £9.99 + 75p P+P) it's not worth buying.

I've played some Reader Games that have kept my interest longer than this. Most of them may not look superior but lots of them certainly have better sound effects and music and much better gameplay. Quickly turn the page.

PUBLISHER: F1 Software (01709 888127)
PRICE: £9.99
VERSIONS: A1200
REQUIREMENTS: A1200
RELEASE DATE: Out now

GRAPHICS: ●●○○○
Smooth and fast space craft but rather dull backgrounds and hard to spot magic balls.

SOUND: ●○○○○
Load up the ReadMe file and the music on that's the best you'll get out of this game.

ADDICTION: ●●○○○
A couple of bouts, or maybe just the one tournament should be enough to put you off.

PLAYABILITY: ●●○○○
Fly around a bit (with too much inertia), hit the other craft and fire the odd shot. Yawn.

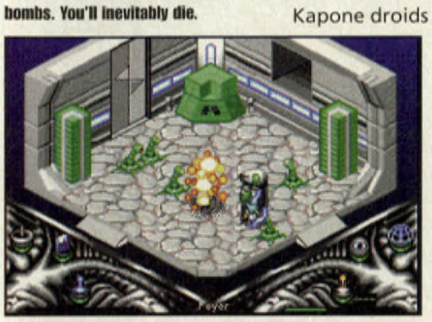
OVERALL VERDICT:
Little room for tactics and the action's very shallow. Nothing to get worked up about.

35%

Uropa 2

Vulcan's second offering in their Mega Series is a futuristic strategy action game. Andy Smith dons moon boots and thinking cap...

Now then, this was not a room to pick a fight with an alien droid in. As soon as the sparks fly those little green things start chucking out bombs. You'll inevitably die.

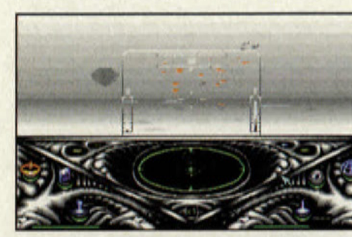


Uropa2 is the name of a moon so don't go thinking this is a sequel because there never was a Uropa 1. Anyway, this moon has been invaded by a bunch of evil Kapone droids and they're holding the moon's colonists hostage. Your job (and I bet you can't guess this) is to go to the moon and rescue them. Simple.

Uropa 2 is a mission-based action game involving combat and puzzles. Its 10 missions are split between charging around various bases on the moon and driving a hover vehicle across the surface. For the moment we'll stay indoors because this is the best part of the game.

At the start of each mission you are given a brief rundown on what's expected of you and basically left to get on with it. You control a droid in an isometric 3D world of rooms and corridors. Objects can be found and used and enemy droids fought.

Your instructions are vague so it's down to you to figure out what you're supposed to be doing and although the puzzles are fairly straightforward, you've got to think a little laterally to solve them. For example, on the very first mission you'll find that once you've explored the base you start in and picked up everything that's about (walk up to objects like tables and such like to



Kaboom! Scratch one enemy hover vehicle!

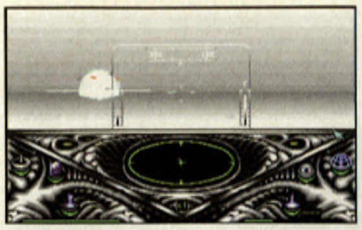
> "...the puzzles may be complex, but never too bizarre or difficult. This makes playing the game tremendous fun."



Your Surface Hovar (hover, surely? Ed) Vehicle in all its shiny glory. Just where you actually sit is not divulged. And where you put your luggage is anyone's guess.



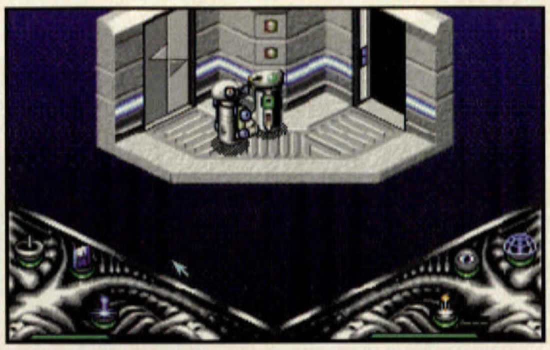
Getting things done often involves using the base's computer network. The speech is great but you will get bored of hearing "Intercorp" all the time though...



A very satisfying sight. Another enemy dead.



Disable an enemy droid, plug into him and download his data and then flog it for some (much needed) credits.



You don't just meet the enemy in rooms as they're wandering all over the base, so beware of rushing through corridors.

search them) you'll get stuck. Your only option is to teleport to another part of the base where the only door out of the room you've arrived in is locked. Smart ones will figure out that if you drop the explosive with a time fuse, which you found earlier, then teleport back to the main base before teleporting back again, the door will be blown open.

Like everything else, it takes a little while to get used to the game environment. Once you have, you realise that the puzzles may be complex but never too bizarre or difficult. This makes playing the game tremendous fun.

The combat is extremely enjoyable too. Weapons are collected during the game that you can use on the enemy droids that will inevitably be encountered on your missions.

Even though the combat isn't exactly action packed – you simply stand in front of enemy droids and shoot away at them until they conk out – it's actually very satisfying. But it's not a case of just blasting everything you come across. Knowing when, where and how to attack the enemy is crucial to success.

And so to the surface missions.



These chaps are a laugh – they're all funguys! Look, sorry, it's Monday morning and all...

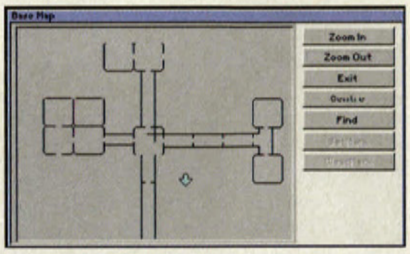
When you are 'up top' you control a hover vehicle. Controls are simple enough: forward, back, left, right and fire. Usually you're told to go to some place or other and either find or destroy something. Everything is in solid 3D and it all moves very quickly and smoothly, but it's out on the surface that you'll come across the game's most annoying feature.

After just a couple of minutes of driving around you'll be informed that some enemy craft are in range. Fine, time for a bit of full-on combat.

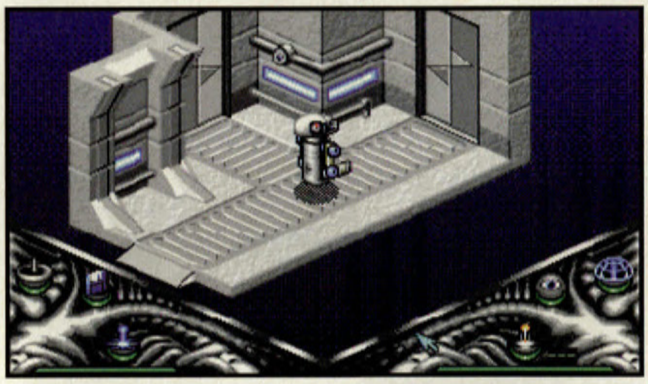
And it is full-on and fun, the explosions are great, there's some baiting from the enemy and normally you'd think this was fine. But then when you've killed off the last of the enemy, there's about a 30 second delay before you're told there are a whole load more of them coming at you. This would be alright if it only happened two or three times but it doesn't. They just keep coming. No matter how many of them you destroy you know there'll be another wave along in a minute. It's not disastrous but it becomes boring sooner rather than later.

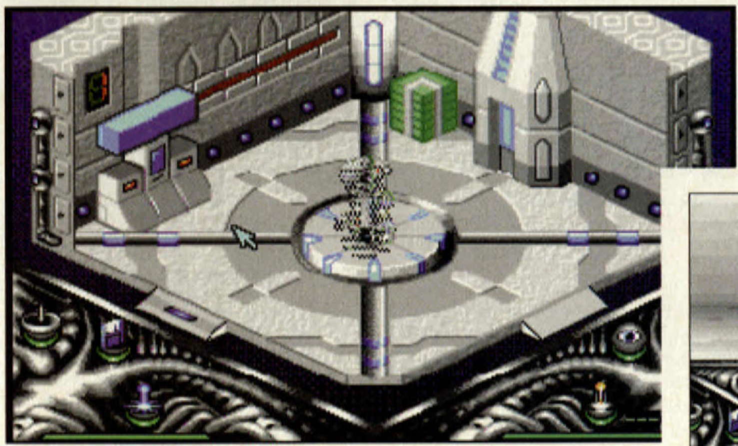
Don't let me put you off though. *Uropa2* has enough going for it that you don't mind the odd niggle. I haven't played a game that's as much fun as this for a long time. The missions are large and though there are only 10 of them you'll find they will take some time to finish. The clever combination of puzzles, tight-ish time limits and combat works really well. And the time limits are a lot more subtle and sophisticated than you might expect. For example, on the first mission you'll discover that you can morph into an enemy droid – handy for sneaking around the base without being attacked – but you're limited to how long you can get away with the disguise, so you've got to finish a couple of crucial tasks before you change back into your original form. You obviously don't want this to be happening when you're in a room full of enemy droids.

The auto-map is an essential feature. You'll find yourself referring to this a lot because the bases are big and complex.

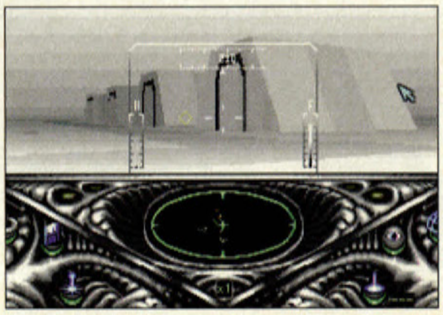


Vulcan's first CD game was a bit crap (*The Strangers*, *AF102* 55%) but this one's most excellent. The best thing you can do to reward them, and to give yourself a serious slice of fun, is to get hold of it. And if you're wondering why you need to contact Weird Science (if you can't find *Uropa2* in your local shop) that's because Vulcan have handed over the selling side of their business to them. Go and get this game now because it's great.





Your droid in mid-teleport. This is how you get to remote parts of the base or out to the surface in your hover vehicle. Maybe he should have taken those pizzas with him.



PUBLISHER: Weird Science (0116 2463800)
PRICE: £29.99
VERSIONS: A1200
REQUIREMENTS: CD ROM, 2Mb.
RELEASE DATE: Out now

GRAPHICS: ●●●●○
Highly detailed underground and fast and smooth on the surface.

SOUND: ●●●●○
Excellent speech and sound effects. Except your droid's basic gun which sounds terrible.

ADDICTION: ●●●●○
Having to think your way round problems makes it hard to know when to stop playing.

PLAYABILITY: ●●●○○
Awkward and confusing at first but after half an hour you should be up and running.

OVERALL VERDICT:
Varied missions, some manic, some stealthy. A game to make us all believe again. Great.

90%

Street Racer



Seventh. Oh well, it is the start of the race and there are many laps to be done yet. At least it's not eighth place. Foot to the floor time...

A new racing game with a couple of tongue-in-cheek twists has just been released. Andy Smith's just the kind of clown to check it out...

Blimey. I thought with Andrea gone I wouldn't have to put up with such character assassinations in straplines. Some things never change it seems, especially Amiga racing games.

> **"The idea is simple enough – drive around smacking the other players into the walls... It's not hugely entertaining"**

Let's deal with the quirky bits of the game first, starting with the soccer mode. This is just plain bizarre. You play on half a footy pitch (which can be indoor, outdoor or outdoor covered in ice) and the simple idea is to charge around in your car trying to get possession of the ball from the other drivers (by crashing into them) before racing towards the goal and sticking it in the onion bag. It's bizarre and, frankly, not much fun. Your car moves as if it's in treacle while everyone else seems to be on greased rails. Still, it's something to play when you've exhausted the even less exciting Rumble Mode.

And it shouldn't take very long to exhaust Rumble Mode, even when there are up to four of you playing (with an adaptor). You drive around a small circular course in which you go faster at the outside edge than you do at the centre. The idea is simple enough – drive around smacking the other players into the walls on the outside of the course. After a couple of hits, the walls disappear. Should anyone then get smacked into the gaps they've been Rumbled and are out of the game. It's not hugely engaging. Hitting the other drivers is quite fun though, and is about the only thing that livens up the main part of



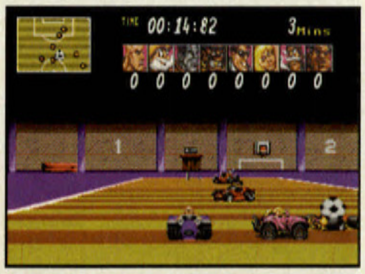


Pull alongside the chap with the spears and give him a well-aimed smack in the mush.



Two-player split-screen action. The chap at the bottom has just invoked a special move, cheeky blighter.

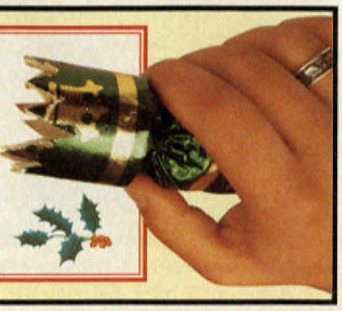




The very bizarre soccer mode. Play indoor, outdoor or outdoor on ice. It might look fun, but it's not.



If you're an Amiga gamer with a console too, why not send us a postcard to win one of three subscriptions to *GamesMaster* and a bag full of console gaming goodies? Make sure you put what console you have when you send your postcard to:
***AF* GamesMaster Draw, Amiga Format,**
29 Monmouth Street, Bath BA1 2BW





Choosing your character in four-player mode. And a fine group of individuals they are too. Bagsy being the 'tally-ho chaps' bloke in the bottom left.



While driver one is mixing it with the others, the bottom player is about to drive over a turbo arrow.



the game, which involves racing over several courses in three different difficulty modes.

The racing then. At the lights, press accelerate and go for it. Drive around and try to come in the top four to qualify for the next track. This is Championship mode, by the way. There's also a Head to Head mode in which just you and another driver are racing each other, er, head to head. Whichever you choose, you're going to have to avoid the roadside obstacles (more on them later) and try to collect the power-ups and avoid the power-downs as you whizz round the tracks.

Power-ups include turbo boosts and power-downs include sticks of dynamite that, if you don't manage to give to another player by crashing into them, explode and send you into a spin.

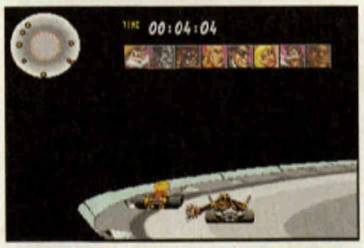
When you are mixing it up with the other players a small tap on the joystick forces your character to 'have a pop' at the other drivers. Obviously this does their concentration no good and causes you to go past 'em (or them past you if they manage to get the first slap in). You've also got a couple of special moves that can be invoked and these range from turning your car into a magic carpet or WW1 tri-plane. Nice, but remember that these effects aren't going to last forever.

Nor does the enjoyment with Street Racer. It's not that it's a complete pig or anything, it's just that it promises so much and manages to deliver so little.

This may have been a top SNES game but It seems like they've sacrificed good tracks for some decent speed. You zip around the place all right but you just don't really get the chance to drive the courses. A lot, and I mean A LOT, of the time you'll be stuck at the roadside as you lurch from one side of the track to the other trying to get through a tricky set of corners. Taking your finger off the accelerate button and trying to be sensible about things isn't on because you grind to a halt in under two seconds.

To be fair you do get used to where you should be looking on the road ahead in order to anticipate the turns and after a bit of practice you do get better. But not by a significant amount. You still end up on the roadside too often for the excitement to remain.

It all looks very nice in the screenshots but the animation is on the jerky side in the actual game and it's curious to see your car going sideways round a relatively gentle corner. The backgrounds are very good though.





Rumble Mode. Drive round and round and deliver the odd smack. Then drive round some more.



Nice lightning effects on the Frankenstein level. They don't improve the gameplay, however.



Well done chaps, you've made a crap racing game with some nice backgrounds. Money well spent on the development then. If this is sounding particularly venomous then I do apologise. It's a big game and it could have done a lot to boost people's confidence in the Amiga games scene. I could not recommend anyone shelling out the £15 quid or so they're asking for this.

Did I get to mention the dreadful music and crap sound effects yet? Oh good, that's worked out nicely because they're a fine sour note to end the review on. AF



No, you haven't exploded, this a special move in full effect.

PUBLISHER: Epic Marketing (01793 514188)
PRICE: £14.99
VERSIONS: A1200
REQUIREMENTS: A1200 or above
RELEASE DATE: Out now

GRAPHICS: ●●●○○
Lovely backgrounds and at least the different tracks break up the monotony.

SOUND: ●●○○○
And that's being generous. The music is unpleasant and the effects are cringe worthy

ADDICTION: ●●●○○
Get a couple of races under your belt and you'll want to finish the Championship mode.

PLAYABILITY: ●●●○○
Over to the left, over to the right, over to the, oh sod it, just go around on the outside.

OVERALL VERDICT:
Impressive graphics, no gameplay. It's not entertaining, gripping, or worth the money.

45%



Foundation

WORK IN PROGRESS

It's nearly finished, so here's a second installment of the Work in Progress by Foundation author Paul Burkey



Gorgeous scenery like this can be found between every level of Foundation.



The new hires graphics mean that Foundation will look stunning as well as playing well.





Defending your property becomes much harder when your enemy is intelligent.

This month I'll take you through some of the methods I've been working on to let the computer players put up a good fight. This is what most people refer to as Artificial Intelligence or AI. The methods I'll use are very simple compared to what is traditionally known as AI, as we just want something that can play a good strategy game.

When I first started planning out ideas for *Foundation* I aimed to give the player plenty of control over the flow of the game. The chance to select units and give them commands like torch building, start mining, attack and retreat, and giving full control over the number of workers in each building, the amount of resources to make, and the training of peasants. It sounded like a great way to control the strategy, instead of just creating buildings and attacking enemy buildings.

> **"It sounded like a great way to control the strategy, instead of just creating buildings and attacking enemy buildings."**

Then I realised that the computer AI would have to do all this too! I suddenly saw how much work I had ahead of me. I added some interesting statistic panels that give information about resources, population, buildings and also some interesting charts like the Top 5 causes of death! They provide useful information to the games player but they also allow the computer players to access simple data to enable them to make intelligent decisions.

To make things simple I split the job of playing the game into three areas – offensive, defensive and progressive. The progressive side of the gameplay is quite simple. You just need to know which buildings and resources you need and where you would like them created. You must also keep track of current buildings and adjust the output levels and workers as needed.

The computer is good at this side of the game because it can monitor and adjust the levels very quickly. The defensive and offensive areas are based on the same information.

This area of game playing needs access to the kind of information that is taken for granted by mere humans. Imagine I'm playing a game and I can see an enemy farmhouse with no real defence. It looks like an easy target, but I would check for nearby forts or guards. Maybe some defensive buildings such as a gun tower or an archer's fort are surrounding it. This would help me to decide which actions to take, but it's not easily available to the computer players. I can't let the computer team spend a few seconds thinking over complex situations like this, so a way of simplifying the information is needed.

I split the game map into sections, each big enough to fit in four or five buildings. They will be filled with information about who controls that area of land and what type of buildings are there. If a section contains a player's HQ or one of the important defensive buildings then it will be given a rather high control figure for that team. If the section is empty of inhabitants then it will be given a zero control figure.

Each time a building is created the section will have it's control value updated. Now the computer players can analyse these sections to see which have high protection and which have little or no protection.

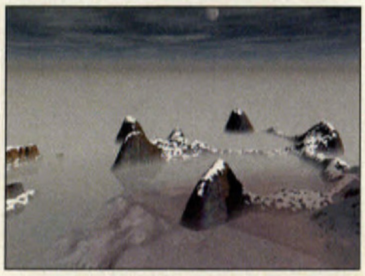
If we go back to the farmhouse example and see that it's control section has little or no defence, and the surrounding areas are also showing little or no protection, then we can be sure the computer player will attack. It's also likely to build some defensive structures nearby to avoid any future retaliation.

More details...

Foundation is due for release in November of this year. SAdENESS Software are taking advance orders now so if you're interested, contact them at 13 Russell Terrace, Mundesley, Norfolk NR11 8LJ or call 01263 722169. More information can also be obtained from the Sadeness web site so point your browser at www.sadeness.demon.co.uk/foundation.html or email rich@sadeness.demon.co.uk



If there's only one of you and three of them, stay as far away as possible!



More beautiful Foundation scenery.

Some people are mad for it. Some are double mad for it and some people are just mad. Andy Smith checks out the mad, double mad and plain mad games created by you, Amiga Format readers. They are, of course, the...

Reader Games

ON THIS MONTH'S CD

AFCD21:-ReaderStuff-/-ReaderGames-

Enthusiasm isn't something that can be taught and it's to be applauded every time it shows itself. *Amiga Format's* readers are especially enthusiastic about games so here's where we give them the opportunity to show everyone what they can do.

The idea is not to ridicule or deride your efforts, though Lord knows, it's impossible not to sometimes, but to offer encouragement and advice so you can produce the best games you can. And what's in it for you, apart from showing the world your programming talents? Well, there's £50 up for grabs for the author of the month's best game. A word of warning though – don't bother sending in games that have been created using the Reality package as they're far too similar to each other to feature here. We're looking for original and clever ideas – they don't have to be works of art, just good playable games. Keep that enthusiasm pouring through your fingers and keep the games coming. Sorry we've had too many commercial releases to review this month to warrant the usual four pages of Reader Games, but normal service will hopefully be resumed next month. Meanwhile, enjoy...

GAME: Amigotchi AUTHOR: Samuel Brookes LANGUAGE: Blitz Basic



Thank goodness someone's finally come up with a Tamagotchi clone! Hurrah for Samuel Brookes everyone! Er, I take that back actually. It's some three hours since I wrote that first sentence and my Amigotchi has done absolutely, erm, nothing.





How you see it and now you don't. The very odd runaway Amigotchi. If this had worked properly it would have been a lot of fun. Would have been.

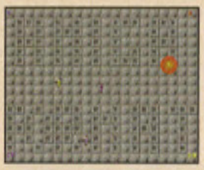
It's just sat in the middle of the screen, looking at me. I've fed it a couple of meals, given it a couple of drinks (all with key presses) and that's it. It hasn't been to the loo so there's nothing to clean up. It hasn't fallen ill so I don't need to give it a jab and there's no facility to either play with him or discipline him. Oh, it's a him because it's called Tandy - ex art girlie Cathy came up with that. And a very curious thing has just happened – I lifted up the info box normally at the bottom of the screen and put it on top of Tandy – who has now disappeared. After lunch, Tandy is still absent. He weighs 1, he has had 4 meals, 3 drinks and has been to the toilet 0 times. He's perfectly healthy, which is just as well because he's going to have to cope in the world on his own from now on as I can't be bothered to invest any more time in him.

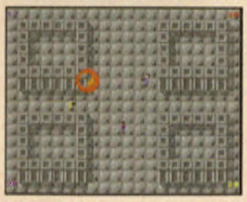
Amigotchi would have been brilliant if it did anything. As it is, Samuel's got a few improvements to add. Like making the thing move occasionally. I could see myself booting this up and spending the whole day playing with it. Hey, it beats working for a living! C'mon Samuel, let's have version 2 soon because someone else is bound to be working on similar lines.

VERDICT:

Well, it's a Tamagotchi on your Amiga. Except it fails to do anything at all. And as I can't afford to dedicate my Amiga to it for three weeks to see if I've missed something, I'll have to apologise to Samuel now if I have.

GAME: Army Men AUTHOR: Paul Hopkins LANGUAGE: Amos Pro





Four go mad in an arena. Army Men is half-baked but has the potential to be a fun game. Paul just needs to finish it off now.

Paul is no newcomer to this part of the mag, and his new game continues the feel of his earlier effort, *Clunk Click* (*AF98*), a decent but dull *Destruction Derby* (but on the Amiga) clone.

Army Men is a four-player run around a maze, shooting at the other players type affair. It doesn't look like much but it's got the bare gameplay bones to hang some flesh on. Paul admits that the game's a bit sparse and is waiting for some feedback from me before deciding whether to develop it or not. Go ahead Paul because, although the action is frantic, there's far too little room for any tactics.

There are several levels to run around but they need more action to be fun for longer than a couple of minutes. How about some power-ups? Maybe some vehicles to drive around in? What about hard – but not impossible – to spot booby traps? Things like that should beef up the fun.

A bit more work on the graphics wouldn't go amiss either. The men move very quickly so a few more frames of animation would make them look more convincing, and the explosions could be improved too.

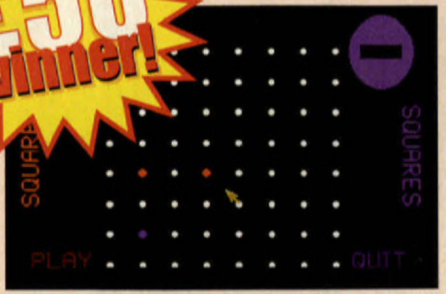
Army Men is OK but it's obviously nowhere near complete.

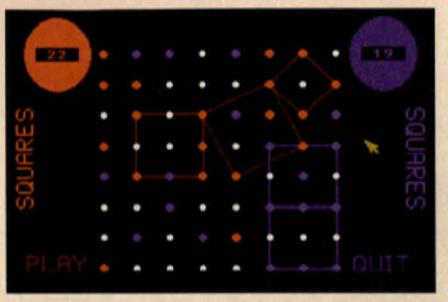
VERDICT:

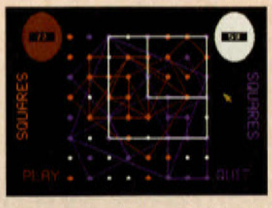
This has the makings of a fine game but needs lots of additions to turn it into one that will be fun to play.

£50 winner!

GAME: Squares AUTHOR: Ian Davison LANGUAGE: Amos Pro







The very playable Squares. Things are just starting on the far left, becoming more advanced in the middle and on the right here the blue player's made a fine move. A game that's well worth this month's prize.

Another game from a chap who featured in these very pages a couple of months ago (with *Globs* in *AF103*), *Squares* is a simple, Connect Four-style puzzle game.

You probably played a simpler version of this when you were a kid and called it 'boxes'. The screen shows an eight by eight grid of dots. Two players take it in turns to change the dots to their colour, the idea being to make squares by managing to colour all the corners. The bigger the square you manage to create, the more points you manage to score. Once all the dots are coloured, the winner is whoever has the most points. Nice 'n' easy eh? But there are twists.

Obviously the first thing to bear in mind is that you want to win and you want the other guy to lose. Hence you're also going to be concentrating on blocking his obvious, unsubtle attempts to gain points by grabbing one of the corner dots of the square he's trying to win. The other thing is that multiple squares count. Pick the right dot and you could end up with loads of squares being completed for a whacking great score – especially when you remember that the diamond shaped squares also count.

This is great fun. It's only a shame that (as Ian admits himself) there is no decent one-player option. You can hit the Space Bar and force the computer to colour a dot at random and towards the end of the game it will win quite a few squares. This is no substitute for a computer that is more aware of which dots it should colour, and is nowhere near as good as the two player version of the game. AF

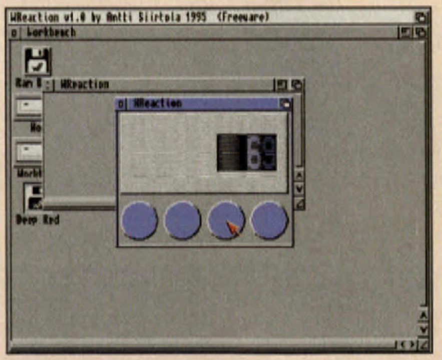
VERDICT:

A simple but very playable and (in two player mode anyway) challenging game. It's not original but it's fast and at least you don't have to work out which squares are completed because the computer does it for you. Nice 'n' tidy and deserving of this month's £50 prize.

GAME: WReaction AUTHOR: Antti Siirtola LANGUAGE: Unknown

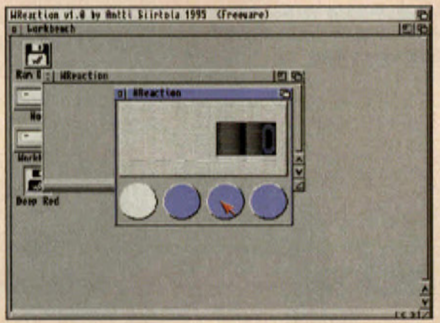


And in keeping with what has turned out to be a theme running through this month's Reader Games is another author who has featured on these pages before. Finnish chap Antti wrote the fine card game *Deep Red Hearts* (*AF102*) which only suffered from being a little difficult on the eye.



69's a pretty good score actually. Things start to get fast once you hit the 50-odd mark. No-one in the office has made the ton yet...

WReaction is something completely different. It's terribly simple and merely involves the player looking at four buttons in a row on the screen. The buttons randomly light up, one at a time, and you must click on the lit button to score a point. After a while the game speeds up and you have to click faster. Get it wrong twice and it's game over. Note your score and try again. It's an interesting little device that will occupy you for ooh, three or four minutes tops (unless you're really, really bored and don't have any patience games tucked away – something like *Deep Red Hearts* for example). You can even recreate it with a mate if you don't want to wait for it to load. Lay out four twopences and get a mate to point at them at random. Simple. AF



Simply press the button that's just been highlighted – the one on the far left in this case. They don't come much easier than this.

VERDICT:

Not much of a game at all really. At least it works (when you figure it out which may take you longer than you actually spend playing it).

MORE OF THE SAME PLEASE!

When you're sending in your submissions make sure you also give us:
1. an address where you can be contacted
2. details of the language used to create the game
3. a recent photo of yourself.

The address to send your stuff into is:
Reader Games • Amiga Format
30 Monmouth St. • Bath • BA1 2BW

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Every month we're asking you to choose your favourite game. Just have a play on the CD and then fill out this coupon including the name of the game and the name of the author. After Christmas we'll count all the votes and announce the winner!

Choice 1: ....

Choice 2: ....

Choice 3: ....

Name: ....

Address: ....

....

Tel Number: ....

READER WARRANT

Everything included on the *AFCD* must have a reader warrant with it. Just cut it out off this page, sign it and send it in to us with your game and a recent photograph of yourself. A last reminder: if you don't include this warrant we simply won't be able to put your game on the CD – and that means you won't be able to have it judged by other readers.

In respect of all material which forms my reader contribution to Future Publishing's *Amiga Format*, I hereby warrant that:-

1. the material is original and does not infringe any other material or rights;
2. the material does not contain any material which is defamatory, obscene or indecent and is exempt from classification under the Video Recordings Act 1984;
3. that there are no legal claims against the material provided;
4. that I have full power and authority to provide this material to Future Publishing.

Signature: ....

GameBusters

So remember, when you hear the beep, think of the fun you could be having with all those hints and cheats! Yes folks, this is the place where games are destroyed, tricked and tipped so you can get more out of 'em. Sweet.

Capital Punishment



Demona has a bit of a weep after the nasty alien tells her that her puppy has died. Of course, it hasn't really, it's just a ruse.

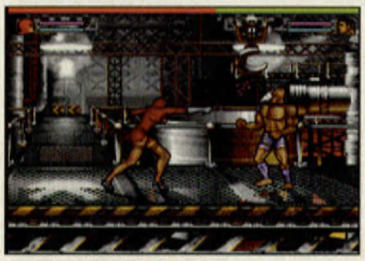
So you want to finish the game – including the hidden level? Read on, dear reader, read on...

To start with, you'll find playing Capital Punishment much easier if you're using a CD32 joypad or something similar because you can use the whip with a simple button press (the blue one on the CD32).

> **"As Wakantanka gets up, whip him. As he attempts to high kick you, whip him. Now step back and whip him..."**

When using the whip, try to avoid the move that grabs opponents and drags them towards you because this can cause you all sorts of problems.

Just keep that whip going, Demona, but don't try the move that causes the whip to wrap around your opponent's neck...



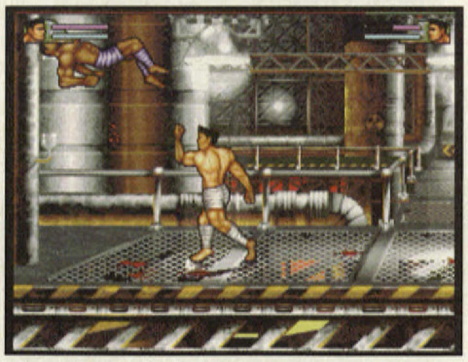
Next choose Demona as your warrior as she's the easiest person to finish the game with. When the first match starts make sure that you step back to avoid the alien's flying kick and then, before he lands, use your whip on him. This should knock him back into the corner. Now just keep whipping him and if he falls over before running out of energy, step back slightly to avoid getting hit as he gets up. That should get you out of the sewers.

Now you're onto Wakantanka – remember to take a few steps back, then whip him as he jumps towards you. Before he gets up, position yourself just out of reach of his fists and whip him as he stands up, then quickly step back again and whip him as he jumps towards you. Now he'll go back to his punch again so simply repeat the process until he dies. Beware though, if you stand too close he may charge at you instead of punching. If he does, step back and whip him quickly as he will flying kick you straight after.

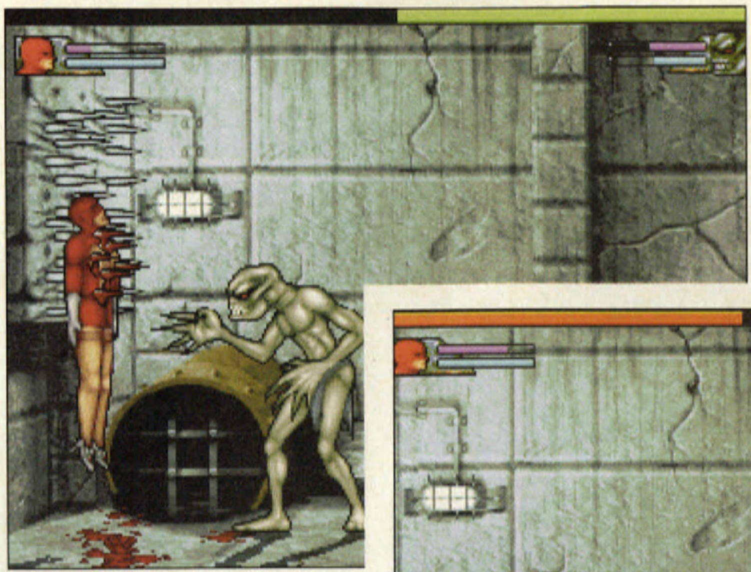
Now we're onto the Head to Head where you have to be Wakantanka fighting against, wait for it, Wakantanka. As soon as the match starts, jump back and then as long as you are out of reach (but not off-screen) start to jump up and down on the spot while doing flying kicks. The other Wakantanka should copy you. Do this as quickly as you can and wait until you are leaving the ground just before him and then flying kick him (this should be two jumps after your feet are



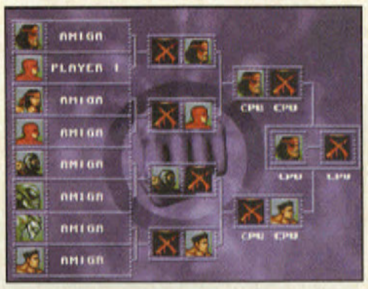
Working out with an invisible Bullworker. Fred's mate takes the chance to have a post-bout kip.



Fred was in danger of losing the bout until he remembered his secret weapon – his new and expensive Timex watch.



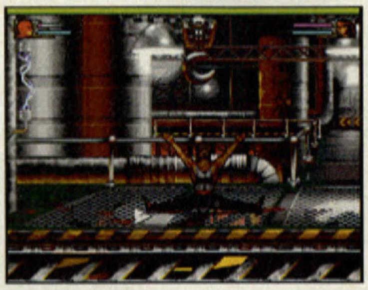
Before you start the game, go to the options screen and turn off the traps. You don't want things like this to be happening...



As you can see, Player 1 lost in the very first round of this tournament. That'll teach 'em to be cocky.



Sarmon celebrates. This is not a screen you want to see so follow the tips here and avoid it. Simple.



level if you are jumping as fast as you can). If you're a reasonable distance apart and time it right you should hit him every time.

Another method is to stand so both of you are near to the edge of the screen. Keep jumping and kicking as before but leave a very short delay between each jump and he should eventually jump towards you and land a short distance in front of you. As he lands, flying kick him and he should fall over. If he doesn't, this could be even better as you can keep flying kicking him until he does – if you're fast enough. Once you have managed to get him flattened, back off and start the whole process again.

Now you're back to being Demona and it's onto the Nest and the nastiest of the two aliens. As long as you can use your whip properly and quickly you shouldn't find this chap too much of a problem. At the start of the match use your whip to knock him back towards his side of the screen. As he jumps at you, follow him and position yourself so your head is level with the outer edge of the cave wall in the background and whip the alien quickly. If you have positioned yourself correctly you shouldn't be able to hit him when he's unconscious so he won't fall over. If he does, take a step or two back so that he can't hit you as he gets up. Slowly move forward again with your whip cracking all the while. Note: defeating this alien with anyone but Demona is terribly difficult.

Now we're facing Wakantanka again. As soon as the match starts, step back and get that whip going. As Wakantanka gets up, whip him. As he attempts to high kick you, whip him. Now step back and whip him while he attempts to flying kick you. Repeat this process until you've killed him. Be aware that he may occasionally try to sliding kick you, so be ready with the whip. He's also going to try and flying kick you the whole time if you're standing too close, so make sure that you're backed off sufficiently.

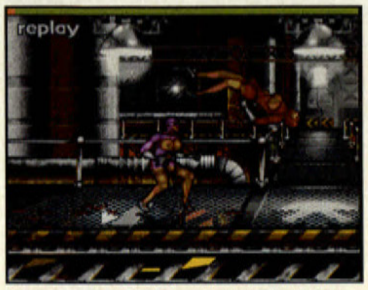
Now you have another chance to gain a good warrior, but this one's not going to be easy. At the start of the match, back flip away and press fire and away to slide and kick at him. Slide in again quickly and then back off just over a jump's distance away and start jumping and kicking. With the small delays in between when he jumps towards you, flying kick him. Just keep doing this until you've polished him off.

Now you're going to be facing Corben Wedge, so make sure you're Demona again. As soon as the match starts, flying kick him because quite often he'll start the bout with a forward roll. Stand about a jump's distance apart and start to jump vertically while kicking as in the last match and just keep doing this until he's dead. If he starts getting too

"Now you have another chance to gain a good warrior, but this one's not going to be easy."

CAPITAL PUNISHMENT

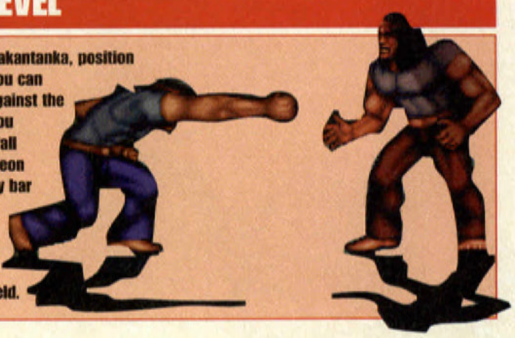
continued overleaf ➡



Demona on Demona. Just why she has to fight in this attire is completely beyond us here at AF.

HIDDEN LEVEL

If you're facing Wakantanka, position yourself so that you can knock him hard against the right-hand wall. You should now both fall through to a dungeon where your energy bar will be fully replenished. Very handy.
M. Brown, Chesterfield.



Helping Hands

VALHALLA

Dear Helping Hands,

I think I've nearly completed level one of Valhalla I but I am in dire need of assistance. How do I open the first door on the left which is down the electrified passage? Also, what is the password for the skull in the room where the Fire Altar is located?

Steve Bromfield, Evesham.





The ever-popular Valhalla series of games are tricky, but hey! We're here to help folks, so don't be shy, drop us a line.

Blimey, you don't want much do you Steve? Deep breath, here we go:

Drink the rubber soles potion and head down the electrified corridor. When you reach the end, insert the stick in the hole in the wall to make a lever that you have to pull to open the door below.

The skull password bit, this takes a little longer: Pick up the lit candle and return to the chasm room. Put the lit candle opposite the other candle and the chest opens. Take the red crystal, insert this in the relevant guardian to get the second orb. Cross the chasm and don't forget to pick up the plank as inside the next room another chasm opens up behind you. Take the second gold symbol and a gem. Put the symbol on the second engraved altar in the room where the eye was and a door opens into a room where the Infinity Stone is found. Put the Jug of Infinity on here and take the Gem of Infinity. Operate the floor tile in the top right hand corner of the room and take the dagger. Go and find the skull that asked you for the password, face him and then look at the Gem of Infinity. He allows you to enter a room and, and the rest is up to you.

close, remember that whip!

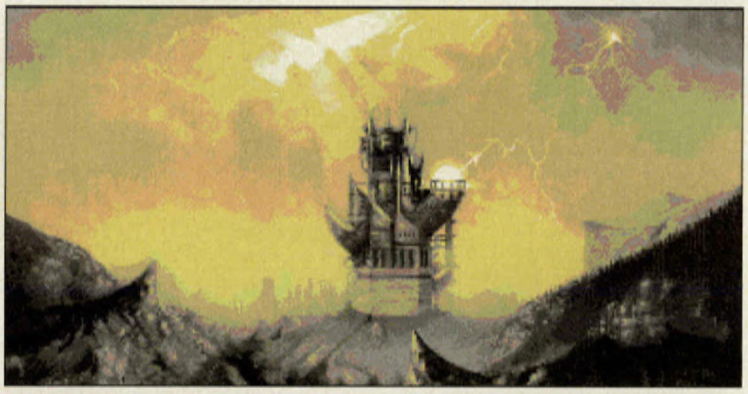
Now it's time to face the Ninja and this is probably the hardest character to beat. Sticking with Demona, back flip at the start of the match and the Ninja will back off too. Now start doing the vertical jump/kick business again with a slight delay between each jump. Eventually the Ninja will jump towards you twice and will land close enough for you to keep flying kicking him until he falls over. When he does fall over, back off and position yourself in line with the pillar by the left edge of the windows and start the kicks as before. When he jumps towards you, flying kick him if he lands too close. You should be able to get a couple of kicks in before he falls over and when he does return to the pillar and start all over again. It sounds straightforward enough but you've got to be accurate with this one. If you do fail, try using the same method with Sarmon instead.

If you've survived this far it's time to fight the final character in the mist. Be very careful here because this character can morph into all sorts of different creatures. Stay close and leave as little a gap between each move as possible because every gap you leave will be exploited by the other character. Flying kicks, high kicks and constant whipping works best here. Complete this and give yourself a pat on the back for a job well done.

If you find that was a bit too easy, up the difficulty level by choosing to start with Sarmon. With him you will not only need skill but an element of luck too. To start with you're going to have to back off from the first alien and wait for him to land before flying kicking him into the corner. When you manage this, high kick him instead and repeat the process. The hardest part of this bout is getting the routine started, so don't give up if it's not working at first – it will.

Now it's time to face Demona again, so back off and use the vertical kicks with a slight delay until she jumps towards you. When she does, flying kick her until she falls down. You might find that sliding kicks are useful here.

It is very important that you capture Demona here so you can use her to fight the next alien. It's actually a good idea to carry on fighting with Demona from here on in, but you should remember that the characters will now appear in a different order.



Qwesul's castle. Here's where you're going to be fighting your final battle. It won't be easy either.

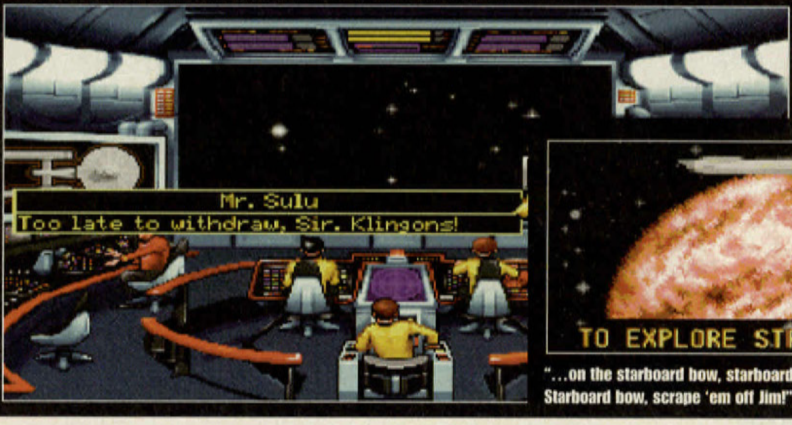
Star Trek - 25th Anniversary

Loads of people have been asking for tips on this game, so here's a little cheat to help you all out:

When you're in space combat, fire your phasers and torpedoes at the enemy vessel. Then press 'D' to get Scotty on the damage control. All the action stops, but your phasers and torpedoes will still recharge. When the action begins again you will be able to fire at the target straight away. Repeat this process a few times and your enemy will soon be going where loads have gone before them!

Cheers to Ami Cheat's Page for that tipette.







"...on the starboard bow, starboard bow, starboard bow. Klingons on the Starboard bow, scrape 'em off Jim!" Oh the joy of novelty pop songs eh?





Scions of a forgotten world

Remember the Scions Preview 2 demo that we gave away on our CD ages ago? Good, because Craig Thorburn of Georgetown has finished the five levels we gave away and has kindly sent us the codes:

Level 1	No code
Level 2	4252
Level 3	1671
Level 4	6772
Level 5	9972

You might also like to know that the Enter key on the A1200 keypad zooms the map in and out and the 8,2,4 and 6 keys on the keypad move the screen up, down, left and right respectively. Cheers for that Craig.



Don't get stuck on the demo, bang in the level codes and see parts of the game you've never seen before.



Breathless

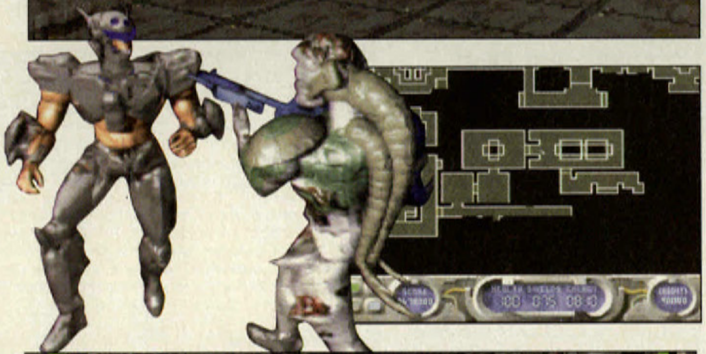


You want codes to give you access to all weapons? Full health? Full shields and energy for each level? Here they are then:

World 1-1	No code
World 1-2	181CEICWL13PGOQW
World 1-3	181C8VWGMQ3PGOQV
World 1-4	181CUBW2NN3PGOQQ
World 1-5	181A59KMOMVPGOQP
World 2-1	181A59NMH5RPGOPD
World 2-2	181A59JSIURPGOPG
World 2-3	181A59KCKPNPGOPF
World 2-4	181A59M6TSFPGOPA
World 2-5	181A59M8TSFPGOP9
World 3-1	181A59KMV63PGOPT
World 3-2	181A59KOV63PGOPW
World 3-3	181A59M2W6RPGOPV
World 3-4	181A59OWPFBPGOPQ
World 3-5	181A59IW5CBPGOPP
World 4-1	181A59I21TDPGOSD
World 4-2	181A59L44U9PGOSG
World 4-3	181A59NAF5DPGOSF
World 4-4	181A59NCF5DPGOSA
World 4-5	181A59H6985PGOS9

We can all thank Mike Denman from Poole for that little lot.






Eek! Big, scary monster bloke. Shoot him! Run away! Skip to the next level! Do something at least!



Now that's what everyone likes to see, a nice handy medikit. Best come back for it later…

Helping Hands

SIMON THE SORCERER

Dear Helping Hands,
Can you help me with Simon the Sorcerer please? I'm stuck at the dragon. I don't know how to wake him and get the money.
J. Edwards, Kirkton.

Aaaaargh! I did this a couple of months ago. Still as J. Edwards is a young 'un, I'll go through it again (thanks to Ami Cheat's Page again - www.netrover.com/~timt/cheats)
Go to the mining operation in the dwarf cave. There is a hook with a rope attached to it hanging next to the door to the treasure room. Get it. Go to the forge.



Simon the Sorcerer is a very popular game here in Helping Hands. Please stop it. Thanks.

There's a rope lying on the floor next to the barrel. Pick it up. Go inside Calypso's cottage. Pick up the fridge magnet.
Return to the dragon's cave. Use the hook on the boulder hanging above the entrance. This will let you climb above the cave. Use the rope with the magnet. Then use the rope and magnet with the hole and keep doing this until you've got all the coins. Simple really.

LEGENDS

Dear Helping Hands,
Have you got any hints or cheats for the game Legends?
Matthew Gabanski, Huddersfield.

Certainly have Matthew:

PEOJNCPC	Chinese World
MHNJOPNC	English World
MKMIJCIB	Egyptian World
MKLJKBLB	Spacial Ship.



Go to whatever world you want thanks to these level codes. Good old us.

LEND A HAND

If you're having trouble with a particular game or have a solution to a question in the magazine, don't keep it to yourself, write it down or send it in on a disk and we'll do our best to print it.
HELPING HANDS • Amiga Format
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SixthSense Investigations — AGA

SixthSense Investigations is an amazing new Amiga arcade adventure, featuring 32 locations, full character dialog, 3 different worlds, many interactive characters, puzzles and more. This game sets new standards for Amiga gaming. Look for reviews!

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Here it is, what you've all been waiting for: A texture mapped 3D-racing game for the Amiga! Forget those boring "flat" 3D-racing games. Flyin' High allows you to drive over hills, through tunnels, over ski-jumps and a lot more. Up to 4 Players can play simultaneous by using a 4player Joystick-adaptor. *A Construction Kit may follow shortly!*

System requirements: Amiga, KS3, 68020, AGA-Chipset, 4MB Fastram, Harddisk. - Fun starts on 68030 running with 30MHz

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AGA Experience 3 is the latest collection of AGA tools, demos, graphics, games etc. This release contains 100% new material and will make a great addition to any A1200/A4000 owners CD-ROM collection.

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Complete with on-disc manual as well as the never before published full printed manual.

Order: CD499 UK: £19.99 - AUST : $40 (quite heavy!)

MIDI GOLD — NEW — Any Amiga

Nathan Ludkin's MIDI GOLD is a professionally compiled collection of around 3000 MIDI files. Every MIDI track is categorised into various directories, like: Film, Composer/Artist, Style, etc. *Great with Yamaha XG System*

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Order: CD451 UK : £12.99 - AUST : $26

C64 GAMES ARCHIVE — KS2/3 2mb

The re-compiled C64 Games CD includes around **15,000 all-time classic Commodore 64 games.** It's very easy to use and the CD has a complete index of every game.

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Price:	75p + 75p p&p

Video recorders were a wonderful invention, weren't they? It's nice to know that, even if we can't live without a regular dose of certain TV shows, at least we don't have to be sitting in front of the television at the exact moment at which the all-knowing TV controllers have deemed a show should be broadcast. We don't have to miss Match Of The Day if we fancy going out for a few drinks on a Saturday evening; we don't have to miss Columbo if we must go to work on a weekday.

Better still, we can save our favourite moments of televisual magic so that we can enjoy them time and time again. If we fancy a cheap evening's entertainment we can just pop down to the local video rental shop and find something with which to amuse ourselves.

It matters little that, as a format, VHS itself is horrifically outdated and unimpressive. It is what VHS makes possible that has ensured that such a huge proportion of living rooms all over the UK are now home to a video cassette recorder.

But the problem with video recorders is that they require video tapes, and if you're as attached to certain movies as I am then you'll soon find you have a lot of tapes lying around your living room.

I'm only a partial anorak, so labelling every single one of them and storing them neatly in alphabetical order will suffice for me. If you're a fully-blown anorak, then you will need the help of *VideoBase*.

This is a database program which can keep track of your entire movie collection. It allows you to locate your recorded movies quickly and easily by entering keywords, actors or other details into the search form… once you've spent several days setting up the database, that is.

VideoBase is hardly a cutting-edge database package, and its AMOS Interface could do with some VCR-style controls to make sifting through your records a slightly easier process.

That said, it does its job adequately and it will make a smaller dent in your wallet than a blank video cassette.



AMIGA QUAKE

Originally by:	ID Software
Ware:	Share
PD Library:	OnLine PD
No of disks:	22
Price:	£16.50 + 75p p&p

Unless you've been living under a rock on one of the outermost planets in the solar system for a couple of years, you'll know that since summer last year *Quake* has been the game every PC owner has felt obliged to brag about to his Amiga owning mates.

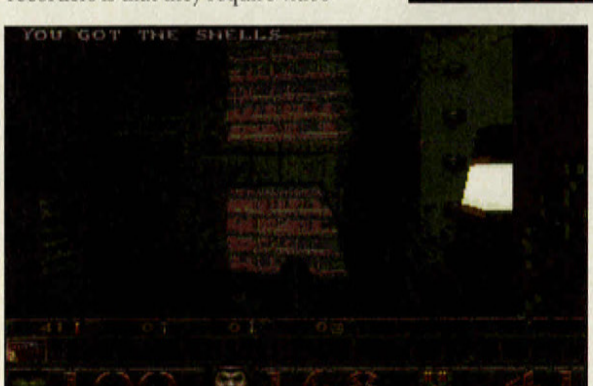
Although in this writer's opinion *Quake* is not the be-all and end-all of computer gaming, it's still a darned fine game, and it's no wonder that so many Amiga owners have attempted to bring it to their favourite machine.

Firstly, *Amiga Quake* is not, has never been, and probably never will be officially endorsed by ID Software, the original creators of *Quake*. On the other hand, as far as I know, it has yet to be officially condemned.

It originally appeared on the Internet as a simple patch for the PC version of *Quake*, its writers saying that since the freely distributable PC demo had not actually been modified as such, *Amiga Quake* didn't represent a breach of copyright. Not everyone was so sure – the *Amiga Quake* page promptly disappeared, and few PD libraries have been keen to distribute the program.

Secondly, if you've actually seen *Quake* in action on a PC you'll realise it demands some pretty powerful hardware. Ideally you'll want an '060, as with any less powerful a processor it's really going to crawl. You'll also require around 40Mb of hard drive space just to install the thing.

Thirdly, a confession: I couldn't get *Amiga Quake* running on my system, because one of the disks



AMIGA QUAKE: **Run around and shoot things with big guns… if you're machine is powerful enough, that is.**



AMIGA QUAKE: **Will this game get PC owners Quaking in their boots? Hmm…**

PD selection of the month

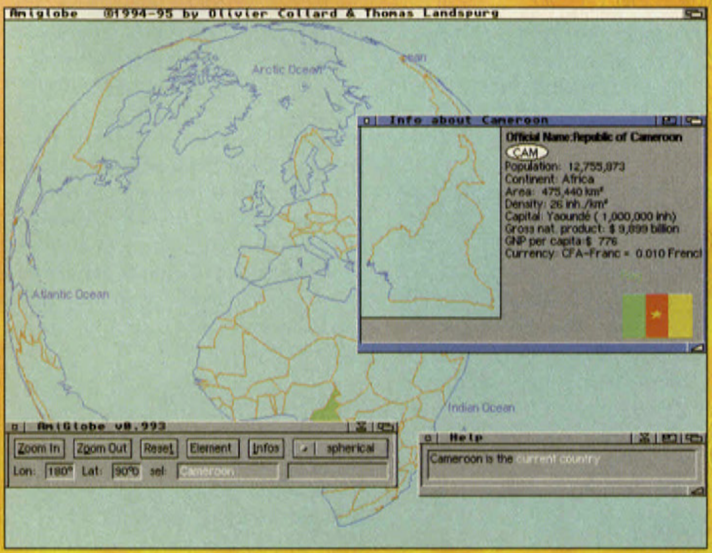
AMIGLOBE

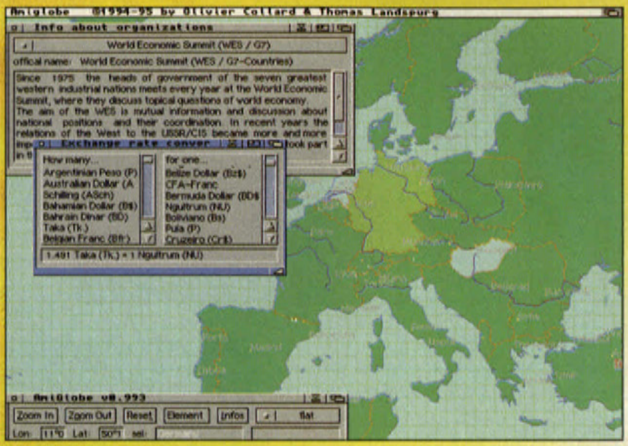
By: ....Thomas Landspurg and Olivier Collard
Ware: ....Gift
PD Library: ....OnLine PD
No of disks: ....Two
Price: ....£1.50 + 75p p&p

***AmiGlobe* is an extremely impressive electronic atlas which runs on any Amiga with 2Mb and a hard drive. Starting from a map of the entire world, you can zoom in on any area, toggle on and off various graphical details such as rivers, cities and lakes, and read the economic profiles of various nations.**

***AmiGlobe* makes excellent use of the medium by providing features such as a currency converter, a variety of map views and the option of associating an image with a particular map element. You can locate a country quickly and easily by selecting it from a list or by identifying its flag. You can view a list of currencies and read background information on various world organisations such as the Commonwealth and OPEC, and, as you would expect, you can choose to output maps and information through a printer.**

A superb resource and an engaging and educational program in its own right, *AmiGlobe* is a very accomplished offering. It's not yet entirely bug free (unsurprising, since it's still at release 0.993) but the occasional graphical glitches are bearable. If the authors are rewarded for their efforts by the scores of admirers *AmiGlobe* is sure to earn them, then this could continue to develop into an indispensable computerised reference work.





AMIGLOBE: Next time you get lost in the wilderness, and you happen to have your Amiga and an electricity supply handy, you'll be sorted with this very impressive atlas program.

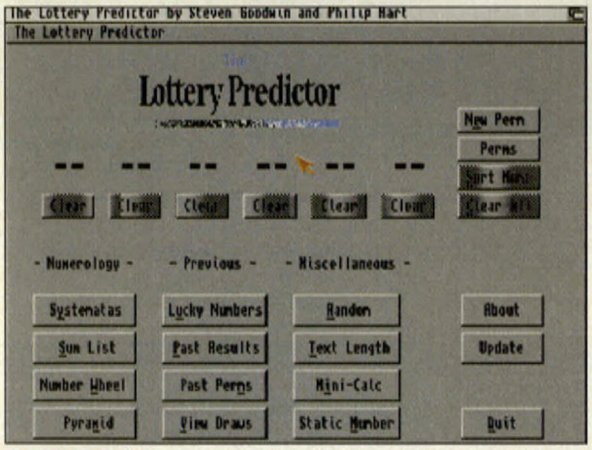
was faulty... not that it would have actually been remotely playable on my '030/40, of course. I have, however, seen *Amiga Quake* in action on an A4000/40, and while it's not likely to worry owners of even the lowliest Pentiums, it is perfectly playable if you reduce the screen size by a considerable amount.

Quite what ID Software must make of the whole *Amiga Quake* saga is anyone's guess. If it turns out that they really don't object to people distributing patches to enable the demonstration version of their blasting masterpiece to function on other platforms (and in theory they might not, because it ought to lead to more sales of the full *Quake* CD), then I'd definitely recommend taking a look at *Quake*... assuming your machine is up to it.

LOTTERY PREDICTOR V2.8

By: Steven Goodwin and Philip Hart
Ware: ....Demo
PD Library: ....OnLine PD
No of disks: ....One
Price: ....75p + 75p p&p

When the National Lottery first came into being a few years ago, I was churning out PD pages such as these for another (now sadly defunct) Amiga publication. In the weeks and months following the first draw (which took place on Saturday, November 11, 1994, fact-fans) I was inundated with programs which claimed to offer assistance in picking winning sets of numbers. I am, I must point out, actually a hardened lottery-hater – I have never and will never buy a ticket on principle. That said, if I were to abandon my principles completely and decide to have a flutter on Camelot's long-odds money-spinner, I would definitely want to make use of a predictor program such as this one.

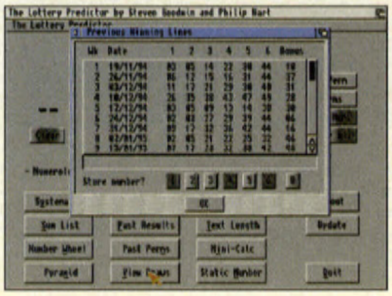


LOTTERY PREDICTOR: I predict there'll be a second-rate celebrity telling me that, once again, I haven't won a penny. Darn.

Although the winning numbers which are produced by Arthur and Guinevere every Wednesday and Saturday night are, of course, totally random, the laws of probability dictate that over an infinite length of time every ball ought to come up on an even number of occasions.

Therefore, the simplest method of predicting which numbers will come up in a forthcoming draw is to see which balls have shown up on the fewest previous occasions.

Lottery Predictor 2.8 can do this, but it can also offer a variety of alternative mathematical indicators which you can choose to rely on, and it can even help you generate numbers via a series of bizarre systems – such as by counting the number of letters in specified words, producing pyramids based on your birthdate, and so on.



LOTTERY PREDICTOR: Multiply your favourite number by the digits in your cat's birthday and *voila*... you'll be a millionaire by Saturday.

Continued overleaf ➡

Version 2.8 of *Lottery Predictor* includes details of 121 draw results, running up to March 1997, and you can add more results to keep *Lottery Predictor*'s database up to date.

Whether programs like this really do increase your chances of winning is a matter of some uncertainty, but on the off-chance that after using *Lottery Predictor* your chosen balls do come up, don't forget who told you about it...

THE WORLD OF MAGIC

By:......................The Bosco Brothers
Ware:....................................Licence
PD Library: ....F1 Software
No of disks:................................Two
Price:......................£4.99 + 75p p&p





THE WORLD OF MAGIC: Goblins, Orcs and beer in this fun fantasy adventure from the Bosco Brothers.

Grendon is a sixteen year old lad who lives in the mystical world of Kawamoon. Like most sixteen year old lads, he's agonised a lot about the important things in life, like how to win the affections of a fair maiden, how to get his hands on alcohol even though he's too young, that sort of thing. However, where most of his classmates opt for anguished poetry, loud music and the development of some eyesight-worsening solitary habits, Grendon has decided that the answer to his problems is to learn magic.

Given that in Kawamoon beasties such as orcs, goblins, werewolves and gods with ridiculously hard to pronounce names run riot, it's perhaps not as bizarre a conclusion to reach as might initially be thought.

The World of Magic is the Bosco Brothers' first release, but on the strength of this graphical adventure I think it's safe to say we will be seeing much more of them in the future. Created in GRAC (the GRaphic Adventure Creator), this is a polished product with enough depth to keep even the most avid adventurer occupied until the second sun doth set o'er the Easterhold wilderness. Or something like that, anyway.

The mouse-based control system is suitably intuitive. At the bottom of the screen are eight buttons representing actions such as Talk, Look, Open and Operate, and manipulating an object is simply a case of clicking on the button and then right-clicking on the object in question. (It worked well enough for Lucasfilm all those years ago when *Monkey Island* appeared, so if it ain't broke, why fix it?)

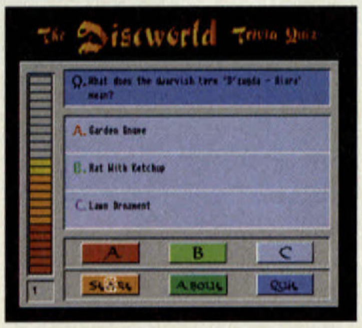
Some computerised role-playing adventures take themselves rather too seriously to ever appeal to a wide audience, but thankfully this is not a criticism that could reasonably be levelled at *The World of Magic*. It's positively brimming over with amusing touches and animations, and it is all hugely enjoyable.

The Bosco Brothers recommend that youngsters under the age of twelve don't play the game, because some of the animations could be a little "disturbing".

THE DISCWORLD TRIVIA GAME

By:..................................Tim Quigley
Ware:..Free
PD Library: .Classic Amiga Software
No of disks:..................................One
Price:......................£1.00 + 75p p&p

I realise it may sound a little perverse, but I'm always a little disappointed when something that I've been trumpeting for ages actually captures the attention of a really wide audience, even in situations where I could hardly consider myself to have been one of the first to start beating that particular drum. For instance, having babbled to the world and his wife about how promising a certain band from Burnage were for several months, I felt almost betrayed when they went on to prove themselves one of the most popular British bands ever... even if their second and third albums proved to be little more than inferior rehashes of their first.



THE DISCWORLD TRIVIA GAME: Just like the quiz machine down the pub. With more dwarves, obviously.

I felt similarly betrayed when the great British book-buying public realised something else I'd known for a while, namely that Terry Pratchett writes some eminently entertaining fantasy romps. Ah, well. Such is life.



TUTANKHAMUN: Very educational. But don't hold that against it – it's interesting and fun, too.

Anyway, Terry's *Discworld* series has proved almost as successful in a literary sense as Oasis have proved in a musical sense. Mr Pratchett dutifully churns out two *Discworld* novels a year, and the public eagerly propel them into the bestseller list.

There have been spin-off maps, quiz books, computer games, pewter figurines and even Multi-User Dungeons, and now there's an unofficial *Discworld* quiz game.

While the *Discworld Trivia Quiz* won't win any awards for Innovation In The Field Of Computer Games Design, it's a decent enough cobbling-together of taxing teasers. It only runs on an AGA machine, but it's got an interface which is pretty easy to get to grips with and a multiple-choice question format which has already been proved immensely popular in games such as *Q-Wiz*. I doubt very much you'll still be playing it an hour after you first boot it up, but it's capable of putting the most ardent *Discworld* aficionado through his paces. Its disadvantage when compared to the *Discworld Quiz Book* is, of course, that you can't very easily take your Amiga to the toilet with you...

TUTANKHAMUN

By: ....Paul Thompson
Ware:..Free
PD Library: ....OnLine PD
No of disks:................................Two
Price:.......................£1.50 + 75p p&p

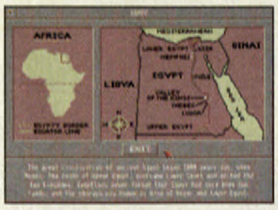
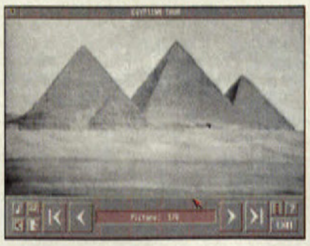
Following the demise of the Central Licenceware Register, *Tutankhamun*'s author Paul Thompson has decided to make his excellent educational title available through OnLine PD.

As most people know, Tutankhamun was an Egyptian Pharaoh who died in 1323BC, but beyond that, precious little is known about him. His tomb was first discovered in November 1922, by a party of archaeologists lead by Lord Carnarvon and Howard Carter. Tutankhamun's spectacular burial chamber, which was guarded by a message warning that "Death will come to those who disturb the sleep of the Pharaohs", was finally opened on February 16, 1923.

This two-disk offering provides a wealth of background material about the ruling Egyptian dynasties and the archaeological team who originally



TUTANKHAMUN: An impressive selection of photographs illustrate this program.

TUTANKHAMUN: Loads of facts, maps and pictures. Everything you need to know, and a quiz to make sure you remember it!

unearthed and opened King Tut's tomb during the 1920s.

There's also an enthralling section detailing the fates that befell Lord Carnarvon and a host of his colleagues, apparently caused by the ancient Curse of Tutankhamun.

Carnarvon himself died from pneumonia within two months of his initial exploration of the burial chamber, and several of his friends and fellow archaeologists died from mysterious fevers or heart failures over the next few months.

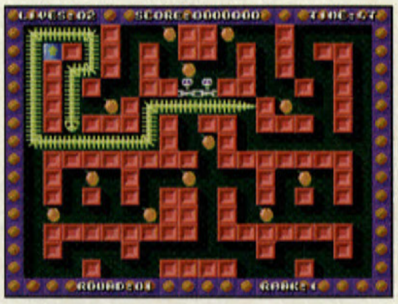
The sole survivor of the original expedition, Richard Adamson, tried to explode the "myth" of the curse three times. The first time, his wife died within 24 hours; on the second occasion, his son broke his back in a plane crash; finally, Adamson's taxi crashed just after leaving the TV studio where he had given an interview on the subject of Tutankhamun's tomb and the curse.

Tutankhamun combines a well written narrative with some carefully chosen black and white and colour images. It even offers a quiz which will allow you to test your newly acquired knowledge. This is a superb piece of software, overflowing with fascinating images and information.

HYPER VIPER

By: Luca Carminati
Ware: Gift
PD Library: Classic Amiga Software
No of disks: One
Price: £1.00 + 75p p&p

Although it's a totally unoriginal offering, *Hyper Viper* has been competently programmed and offers enough addictive action to keep arcade fans busy for a while. You control a snake trapped in a maze, and you have to work your way around the maze chomping pieces of fruit – something which unfortunately makes your tail grow ever longer. If you crash into your own tail, or into a trap of some description, you'll lose a life.



HYPER VIPER: Not stunning or original, but top addictive fun.

The graphics are colourful and well-drawn, the music's quite funky and all in all *Hyper Viper* has a very slick feel to it. The game is giftware, and if you send the author something worthwhile (he suggests 15,000 lire, which *AmiGlobe* informs me is the equivalent of around £6.60, so it's hardly going to break the bank) he promises to send you a level designer in return.

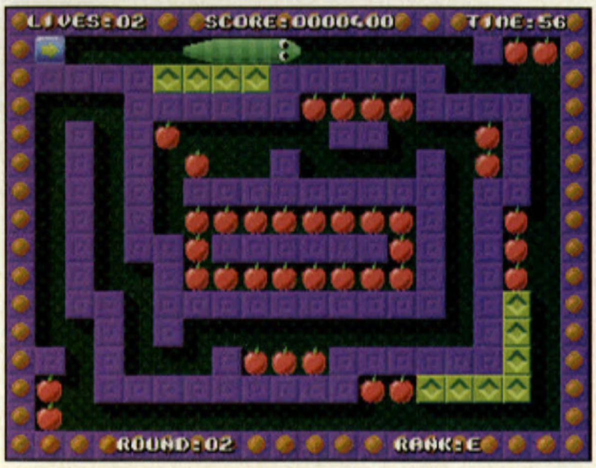


ASSIMILATION: Kill, kill, kill! If it moves, kill it in this great horizontal shoot-em-up.

ASSIMILATION

By: Ben Campbell
Ware: Free
PD Library: Classic Amiga Software
No of disks: One
Price: £1.00 + 75p p&p





HYPER VIPER: Slither round a maze, trying not to eat yourself. Fangtastic, mate!

It's possible that, at some distant point in the future, the bad aspects of human behaviour will have been genetically eradicated, and human beings will be able to live together in peace and harmony, caring, sharing and generally being so darned similar to one another that things really mightn't be much fun.

For the time being though, we live in a nasty world, fate often dealing us cruel hands. Our everyday lives are riddled with stressful events and confrontations – indeed, stress is now medically recognised as a grave threat to the health of many chaps and chapettes throughout the Western World.

It should be no surprise that violent computer games have proved so popular through the years. Ever since arcade machines such as *Galaxians* brought shoot-em-ups to the masses, stressed-out folks have been able to take out their frustrations on imaginary aliens.

Top 10 Public Domain titles

1. NEMESES
2. REALITY CONVERTER
3. TRAIN DRIVER 3
4. EDWORD 5.6
5. DARK CITADEL
6. GORDON AND THE FLOATERS
7. SPACE MAN SAM
8. WORLD OF MAGIC AGA
9. STARBOY
10. OUT OF SPACE AGA

F1 Software • 1 Lower Mill Close • Goldthorpe • Rotherham • S. Yorks S63 9BY• Tel: 01709 888127

Games which have offered a tough challenge without being unduly irritating in their own right have become extremely popular. Back in the late 1980s, the coin-op and subsequent computer conversion of R-Type earned its manufacturers a small fortune.

Assimilation offers honest, straightforward, no-holds-barred blasting action. You take command of a tiny starfighter, alone against an entire alien empire. As wave after wave of nasties stream across the screen, you progress from left to right through scrolling alien landscapes, en route to the hideouts of some particularly beefy end-of-level baddies. The usual power-ups are available as a reward when you destroy an entire squadron of alien craft. There's even a keyboard control option if you yearn to relive the halcyon days of 8-bit blasting. It's all immense fun, really.

If you've got Internet access, by the way, other freeware games from the same chaps are available at http://www.t-online.de/home/fullspeed.

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Other good PD libraries


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ISLONA
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DISK - £7.99
Block Head
Fast thinking puzzle game comprising: Intuitive Controls, Challenging difficulty curve. Random Level mode, dozens of power-ups, Great music.
DISK - Now £4.99
Marblelous
100 brain teasing levels each more difficult - you control a metalic ball using your mouse and have to find your way to the exit.
DISK - £9.99
XP-8
XP-8 is a vertical scrolling shoot'em up, featuring 4 way - 50fps scrolling, wicked music, sound effects and amazing animated alien space-craft.
DISK - Now £9.99
Kargon
Kargon is a completely new challenge! Up to 4 players can compete in order to find one thing out: Who the greatest magician among them is.
DISK - Now £14.99
Testament
When it gets dark, the living dead begin their celebration on the graveyard. Make your way through swampy tracks and dark tomb monuments.
DISK - £14.99
Cygnus-8
Construct a large scale trading empire in a rich galaxy of planets, or turn criminal and raid space pirate fleets? It's your choice in this sci-fi simulation.
DISK - £14.99
Master AXE
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World Golf
1-4 players in practice and tournament modes. Five authentic courses from around the World. Five skill levels. Select 1, 2 or 4 full 18 hole rounds.
"Sixth sense investigations" is a new graphics adventure for the Amiga, based on the classic LucasArts style games. The base storyboard tells of a crazy young guy who has the ability to communicate with the spirit of a sarcastic man. A friend, who thinks of himself as a detective, profits from the psychic abilities of his friend (the crazy psychic guy), by using his skills to solve the most bizarre problems of the rich.
Req: AGA 2MB ram. Available on Amiga CD and Disk. £29.99
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Kid's Games!
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DISK - £10 (QS-19)
DISK - £3.75 (QS-18)
DISK - £10 (QS-20)
DISK - £3.75 (QS-05)
DISK - £4.50 (QS-13)
DISK - £3.75 (QS-06)
DISK - £3.75 (QS-02)
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SERIOUSLY AMIGA

In-depth reviews of hardware and software, that you can trust.

Ho, ho, ho. Who's idea was it to put me in this get-up? Grin and bear it I suppose. OK, well do we have a bumper sack of goodies for you this month? Yes, we do, actually. Even though most manufacturers are holding off on their releases because of the up-coming Computer '97 show in Cologne we still have a nice run of reviews here for you in plenty of time for Christmas.

There are some good, some bad and some downright brilliant products here this month, and I can guarantee that we'll have lots of lovely things for next month too. Now, where's my mince pie?



Ben Vost

AMIGA FORMAT'S REVIEW POLICY

...is very simple. ***Amiga Format*** is staffed by some of the most experienced Amiga users in the world and what we say goes. OK?

WHAT OUR REVIEW SCORES MEAN

90+%	The crème de la crème. Only the very best, most versatile and effective products are awarded an ***AF Gold*** – the most highly prized rating there is.
80-89%	These products are very good, but there are minor flaws or areas that could be improved upon.
70-79%	Not a bad product but quite possibly one that needs a serious update.
60-69%	Average products with somewhat limited features and appeal. Products in this category tend to be flawed.
50-59%	Below average products which are unlikely to impress your mates or your wallet. Avoid.
40-49%	Overwhelmingly poor quality products with major flaws.
Under 40%	The absolute pits.

Aladdin 4D

Will this eagerly awaited 3D modelling program stand out from the crowd? Ben Vost takes a look.







Beautifully realistic 3D images can be created using *Aladdin*... if you can work out how to use the program in the first place.

New 3D programs don't come along every day and when they do, we in the office are always pleased. Why? It means pretty pictures for the review and fun for either Nick or myself because we can play with the new package and compare it to what has gone before – in *Aladdin's* case, this includes *Imagine*, *Lightwave* and *Cinema 4D*, to name the most important ones in order of emergence. Certainly *Aladdin* beats two out of the three in terms of cost to the punter, but does it fare as well when it comes to features, ease of use and all the other criteria?

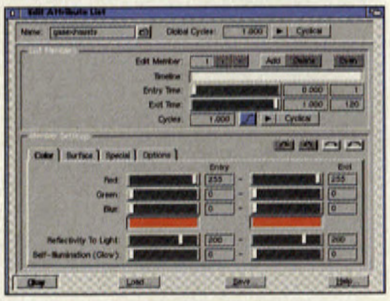
Unfortunately, it would appear not. While *Aladdin* looks nice on first impressions, first impressions don't last. There have been some lovely pictures produced with this program, but it's obvious that the majority of them have been created by the only people familiar enough with the complexity of it to be able to make them – its creators.

> "... Aladdin is extraordinarily flexible and can be set to perform almost any task you care to think of..."

So what's wrong with the package? Firstly, the manual. For a program this complex, an index is a must but *Aladdin* doesn't have one.

Secondly, the manual seems to veer between the most mind-numbingly boring detail on the simplest of things to skimping on the most technical. Not that *Imagine's* docs are any better, but the authors of *Aladdin* should have seen the route the *Imagine* authors took and ignored it. To give you an example, at least 100 words are wasted on explaining how three sliders are used to generate the 16.8 million colours available. Then in the tutorial section, you aren't given a picture of the toolbox to show you what button to click on when told to do so.

Basically, the manual fails the preliminary test for any manual – can you give it to a novice and will they be able to use your program from reading it? Certainly not in my case nor, I suspect, many others. Next up comes the 'modernisation' of *Aladdin 4D*.

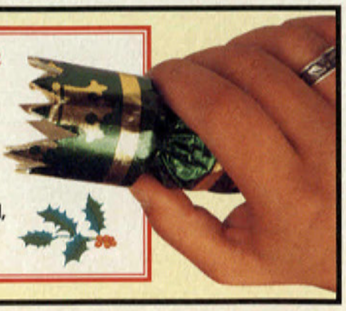


Entry and exit values for most attributes mean that your objects never need to look the same from frame to frame.

CHANGE THIS!

One of the best things about *Aladdin* is its flexibility. Objects, lights, default settings and practically anything you can set can change over time – quite simply for *Aladdin*. In all the attribute requestors for your objects in *Aladdin* you can set a start and end point for any of the values and copy from one to the other. Over the course of your animation you can completely change an object's attributes – how shiny it is, what colour it has, etc. While these changes are global (you can't control the start/stop points), you can fade in one texture over another, allowing for far more complex operations. *Aladdin* is full of stuff like this that could make for some quite impressive animations, were it only easier to deal with.





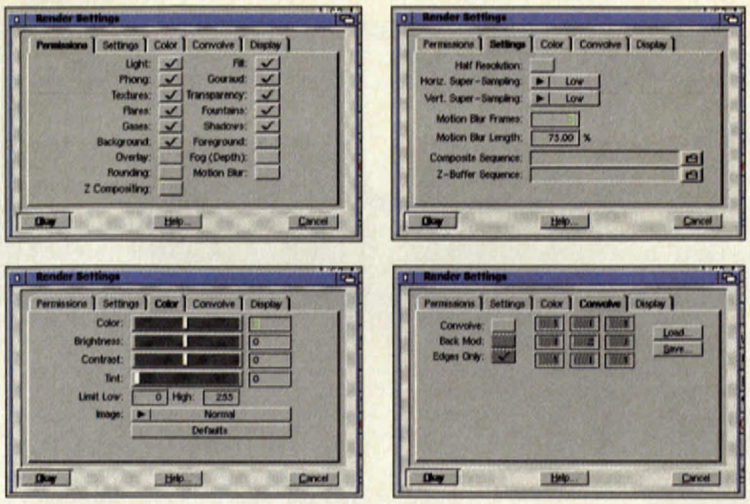
AMIGA FORMAT Christmas ~Crackers~

"YYUR YYUB ICU have three C packages for me (worth £330)..."

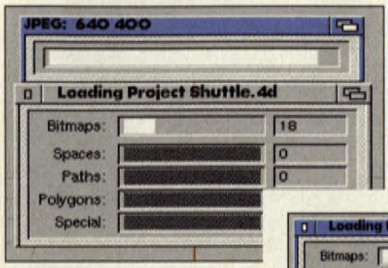
If you fancy doing your own 3D modelling you'll need a development package and HiSoft have kindly given us a copy of HiSoft C++ Professional, and two copies of HiSoft C++ Lite, to give away. Just send your postcard to:
***AF* Christmas Draw, HiSoft Systems Ltd., The Old School, Greenfield, Bedford MK45 5DE**

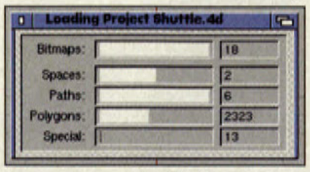
MORE TOOLS!

***Aladdin* might not be much fun to model in, but at least you can load (some) *Lightwave* objects. You can also load in the old ASCII *Videoscape* files and simple *PostScript* files (ideal for converting logos to 3D objects). *Aladdin* also has a plug-in tool interface that allows for new ways of interacting with objects that seems quite extensive, although there doesn't appear to be an SDK or anything similar in the *Aladdin* directory structure.**



You have ultimate control over your render before it starts.





***Aladdin's* scene loading progress display is very nice. I wish other 3D packages would have something like this.**

Much has been made of the fact that *Aladdin* is now a thoroughly modern program and has everything a modern user would expect. It includes an ARexx port, it works on graphics cards, it has online help – everything sounds wonderful. But it also fills up your assign list with four assigns (why it needs more than one is beyond me), and the online help sometimes doesn't appear or crashes the Amiga.

It does work on my Picasso IV, but then, unless you've made your program so that it doesn't support public screens or only works on a locked private screenmode, it would. *Aladdin* doesn't take advantage of the increased colour depth or speed of graphic operation that a graphics card gives you. Oh yes, and the ARexx port simply isn't documented at all.

Everything is overly complex to use. Take making a cheap plastic football as an example. Once you've created your sphere, you need to visit the attributes requestor in order to set the ball's base colour, hardness and specularity. Then you'll need to visit the Textures requestor so that you can give the ball one of the 25 algorithmic textures that come with *Aladdin* (none of which are amazingly useful). Right, so that's that. Hit Render and see your ball come up in all its... polygonal beauty. Darn, we forgot to visit the Shading menu item to tell *Aladdin* that the ball needed to be Phong shaded so that it looks like a smooth sphere. When we hit OK, having set the options we like, *Aladdin* sits there and works out the polygon dependencies right there and then.

While it certainly saves render times for each frame, it does slow down your work as you do it, and if you forget you'll have to go through each object in your scene updating them.

FLEXIBILITY

Some of this complexity is down to the fact that *Aladdin* is extraordinarily flexible and can be set to perform almost any task you care to think of – as long as you can work out how to implement it! It also has some 'key' features, things designed to set it above other 3D packages – lens flares, particle fountains and gaseous effects. The lens flares are bitmaps, the particle fountains also spout forth bitmaps and the gaseous effects are... quite good actually. However, this doesn't alter the fact that *Aladdin* can't do other things taken for granted by most 3D artists – like true reflection and refraction.

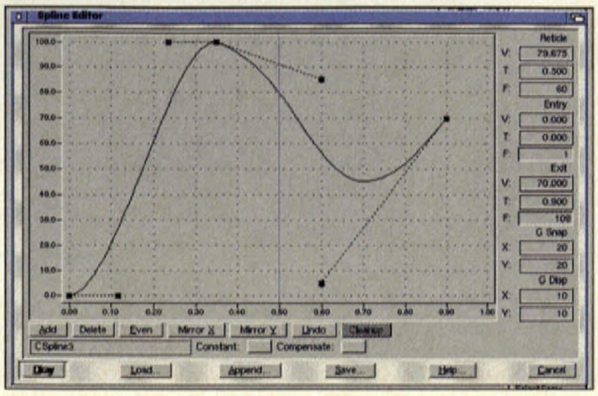
Aladdin 4D isn't a ray tracer, only a renderer. It can't do those things because they require true ray tracing. This doesn't matter most of the time. Like most 3D animators, my primary aim is to get those frames churning out at high speed, so I rarely bother to use lens effects, reflection or refraction because of the huge cost in processor time. Heck, I don't even use ray–traced shadows, I rely on shadow maps to flesh out scenes where necessary. Even so, when rendering stills these things become more important.

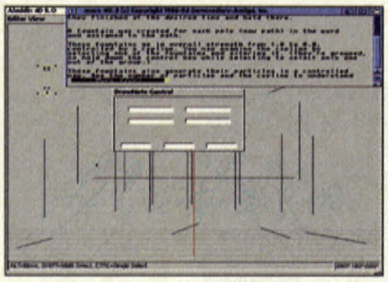
Part of *Aladdin's* main problem is that it's so darn flexible. New options have been added to the program, heaped on top of existing features and the whole thing mixed together until it's practically unusable. Okay, it might not quite have the learning curve that *Imagine* had(although I doubt that personally), but it's still overly complex.

Instead of forcing *Aladdin* to be up-to-date, perhaps it might have been better if the Nova Design team had started from scratch and designed their own program. This would have been a great idea if they could have incorporated all the nice features in *Aladdin* without making it so difficult to use – things like the notes you can attach to objects, the spaces concept where you can have several different "stages" which your scenes are based upon, the gaseous effects, etc.

Aladdin is an interesting diversion, but the slowness of modelling (due to it's single view) and complexity of the interface mean I cannot recommend it as an alternative to other cheap rendering packages like *Cinema4D*. AF

***Aladdin's* C-Splines are the core of non-linear action in your scenes and can be as complex or as simple as you like. It's a shame they aren't that easy to work with though.**





***Aladdin* has all sorts of funky features. This is a filenote, just like a post-it note, and you can attach them to your models and so on in your scenes. The white buttons on the filenote window are an *Aladdin* bug.**

DISTRIBUTOR: Wizard Developments
PRICE: TBC
REQUIREMENTS: 6.5Mb hard drive space, FPU

SPEED: ●●●○○
Render speed is pretty good, but using the interface isn't.

MANUAL: ●●○○○
A program this size really should have an index.

ACCESSIBILITY: ●●○○○
Tough to get to grips with.

FEATURES: ●●●●○
It undoubtedly has some cracking features – if you can find out where they are.

OVERALL VERDICT:
Needs lots of work before anyone chooses it over *Cinema* or others.

60%

LS-120 Drive

GOLD FORMAT

Ben Vost examines a possible alternative to both high density drives and the Zip, all in one package.

Here's the latest thing for you. It's roughly the same size as a floppy drive (it'll fit in any floppy bay), it reads and writes PC 1.44MB high density disks (not Amiga high density unfortunately, but more on that later) and it can read and write 120Mb of data (that's roughly 25Mb more per disk than a Zip) to its own disks which cost about the same as Zip disks. It's got an IDE interface so it's really a case of plug and play and can be supplied with Oliver Kastl's IDEFix97 for full-on hardcore compatibility.

Sounds pretty good doesn't it? In fact it is pretty good, especially as a second drive. PC floppy reads and writes are at full speed and the LS disk is roughly about the same speed as the Zip. Fitting it is no trickier than installing a new floppy drive in your machine. You'll need a standard 40-pin IDE cable and one of those small power connectors that are used for floppy drives.

The drive is known as the LS-120 because it uses a Laser Servo (see?) to position the head accurately enough to be able to fit 120Mb onto a disk the same size and shape as a floppy (120Mb. See?). Other than that, the disk itself looks fairly similar to any old floppy, apart from its snazzy shutter and the smoked plastic box it comes in.

In speed tests, the drive performed well. I first tried it with a standard high density floppy, then compared that to a high density floppy in my Amiga, and finally I tried the LS-120 disk. The results are based on copying a 1.4Mb LHA file and I think they speak for themselves.



> "The disk itself looks fairly similar to any old floppy, apart from it's snazzy shutter and the smoked plastic box..."

While it's great that you can format high density disks in the LS drive I don't recommend using it for this. The drive in this mode is much faster than a standard Amiga high density drive, but it only allows you to format disks to 1.44Mb, making them incompatible with standard Amiga high density formats of 1.76Mb and double density formats of 880k.

This means that you wouldn't want to replace your internal drive with this gizmo unless you never intended using an Amiga floppy ever again. However, as you can see, performance on the LS disk was good, beating copying the file to another place on our internal (and not very fast) SCSI hard drive.

One of the nice things about the LS-120 is that it's represented on your Workbench screen as DF4: whether you have a floppy or an LS disk in the drive, making it easy to work with, and that the software is totally transparent in use without a DOS Driver to be seen.

Overall then, this is a lovely piece of kit, but I wonder how many removable storage devices we really need. This one's great for PC owners since it handles 1.44Mb floppy disks in the same drive, but for Amiga users, many of whom already have a Zip, it's just another removable format to worry about. I would have liked to have seen this drive two years ago – it might have resolved which format of removable media to go for.

It looks like a normal floppy disk, but holds 120Mb, and the LS-120 drive is fast...

SPEED TESTS

1.4Mb LHA File	Time (m:ss.)
HD disk in LS-120 drive:	1:45.90
HD disk in Amiga drive:	2:57.37
LS disk in LS-120 drive:	0:22.63
Copied to RAD:	0:09.16
Copied to sys: (same drive):	0:36.98

DISTRIBUTOR: Eyetech (01642) 713185
PRICE: £114.95. Cartridges x1 £14.95
REQUIREMENTS: IDE port, hard drive (for IDEFix), floppy power connector

SPEED: ●●●●●
Great, even for 1.44Mb floppies

MANUAL: ●●○○○
None, but you don't need one and the docs for IDEFix97 are good.

ACCESSIBILITY: ●●●●○
Very simple but don't get Amiga and LS-120 HD floppies mixed up.

FEATURES: ●●●●○
Take two drives into the shower?

VALUE: ●●●●○
As cheap as a Zip and more versatile.

OVERALL VERDICT:
Fantastic – but how many removable media formats do we need?

92%

New! The Eyetech Complete Guide to Towering your A1200

Do-it-yourself EZ-Tower kits; Mk 2 EZ-Tower assembly; Keyboards and keyboard adapters; High density floppies; 100MB+ cartridge drives; Multiple IDE/ATAPI devices; Zorro slots; High-res Graphics cards and scan doublers; PC-Pentium slave boards; Amiga-PC Networking & Integration; Port exp'n.

Do-it-Yourself EZ-Tower

If you are confident about undertaking a small amount of metalwork using hand tools then this is your lowest cost route to a really professional A1200 Tower system - capable of all the other expansion opportunities oulined on this page.

To build your D-I-Y EZ-Tower you will need to:

- √ Remove the back panel of the supplied PC tower by drilling out the aluminium pop-rivets
- √ Remove a section of internal shelving by making three short hacksaw cuts
- √ Trim down a removable plate using metal shears or a hacksaw and deburr any sharp edges with a file
- √ Fasten the custom back panel back in place using the screws provided or your own pop rivets.
- √ Clip the A1200 power adapter on to the PSU cables using a pair of pliers and the Scotchlock (squeeze-type) cable joiners provided.

Thats it! You've just saved yourself £20 for around 20 minutes work.

The Eyetech *DIY EZ-Tower* costs just *£99.95* - including all the components supplied with the ready-built *Mk2 EZ-Tower*.

The *DIY EZ-Tower* is also available to non-UK customers *without the PC tower* FOR EXPORT ONLY at £49.95 inc VAT @17.5%

Floppy drive and backup options

Bear in mind that you should ***always*** have a bootable floppy drive connected to the internal floppy drive 34-pin header as this may be the only way to boot your computer in an emergency. (Catweasel, Diskplus etc are not bootable)

Your DF0: options are:

- √ Use your old drive with the faceplate & extension cable supplied
- √ Use Eyetechs ***EZ-DF0*** adapter - £14.95, or £34.95 complete with new ***Sony*** floppy drive mechanism with built-in faceplate.

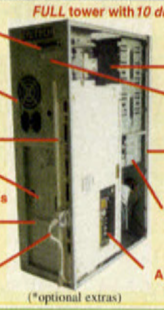
Backup and high density floppy drive options:

- √ Mount your external floppy in the EZ-Tower as DF1. (Its lead must be at least 70cm or you'll need a ***50cm extension cable*** - £12.95)
- √ Use a ***DiskPlus*** interface (you can still use 4 drives on the IDE port - Catweasel doesn't allow this) for DD/HD/XHD Amiga/PC disks
- √ Use an ***Eyetech LS120*** drive* on the IDE port. Reads & writes PC format 720KB/1.44MB diskettes & ***120MB superdisks*** (£14.95/1 or £34.95/3)
- √ Use an ***Eyetech IDE Zip*** drive* for standard data interchange with PC's, Mac's (supported by Shapeshifter) and other Amigas.

** Eyetech EZ-IDE software required*

The All-New Eyetech EZ-TOWER

"This definitely one of the easiest solutions to building your own tower." Amiga Format - July 1997
"The Eyetech tower offers clever solutions with a Velcro easyfit mentality" Cu Amiga - Oct 1997



(*optional extras)

It Couldn't be Easier!

- √ **Remove the case top and keyboard ribbon cable *(No shield removal required).***
- √ **Slot in the ribbon cable from the optional PC/ Amiga keyboard interface.**
- √ **Mount existing and new hard and floppy drives and CDROM units in the bays using the screws provided.**
- √ **Connect up the drives power and data cables.**
- √ **Clip the A1200 motherboard/base into the custom backpanel.**
- √ **Push on the power/HD/FDD LED adapter and the A1200 power connector.**
- √ **Put back the outer case. Thats it! ...**

Now You've Got Tower Power!



The A1200 EZ-Tower

Zorro 2, Zorro 3 and other expansion options

The A1200 was originally conceived as a low-cost, entry-level home computer with limited expansion capabilities. Inevitably some compromises had to be made in its design. Two of these limitations should be born in mind when planning your A1200 expansion.

1. There is no practical, reliable way to add a video slot (see below)
2. The well-documented problems in the rev9 Buster chip used for bus control on the A4000 were carried over into the A1200 design. However - unlike the A4000 - the A1200 chips are soldered directly on to the A1200 main board, making a field-update to the A1200's equivalent of the rev11 Buster impossible.

In practice this means that any A1200 Zorro bus conversion is inevitably going to be frought with performance problems at high speeds. For this reason extra memory and high-bandwidth peripherals such as SCSI cards should always be associated with your A1200 accelerator, not with the Zorro expansion board. (Graphics cards are fine - they actually reduce the bus bandwidth required). This is also the reason why we believe it is not sensible to offer a costly Zorro 3 expansion option for the EZ-Tower. If you really need these levels of performance then our best advice is to either buy an A4000 now, or to buy one of the new PC-AT sized, third-party Amiga motherboards - which will fit into your EZ-Tower directly - when they become available early in 1998.

Apart from graphics cards - see below - most of the desired expansion options can be achieved more cheaply and more reliably using other A1200 ports, such as:

IDE port - using the ***Eyetech 4-device buffered interface and EZ-IDE software*** - for multiple CDROMs, hard drives, Zip drives, LS120 super floppies, CD writers and tape streamers.
Clock port - using the Eyetech ***PortPlus*** (2xser + 1xpar), ***PortJnr*** (1xser), ***DiskPlus*** (2xDD/HD/XHD Amiga/PC floppies), ***EZ-IO**** (2xDD/HD/XHD Amiga/PC floppies + 2xser + 1xpar) (*avail 12/97)
Parallel port - for frame grabbers, sound samplers & PC networking
PCMCIA port - for ethernet (Siamese RTG pack), frame grabbers, sound samplers and SCSI expansion.

Alternatively you may wish to consider adding a **slave PC motherboard** within your ***EZ-Tower*** - networked to perform these and other functions.

What about PowerPC upgrades? The Blizzard PowerPC boards from phase5 will fit in the trapdoor space of an EZ-Tower'd A1200, with or without a Zorro expansion board. However you should bear in mind that the PPC boards will be limited to providing 'subroutine' support to specially written 680x0 programs (just like an expensive FPU) for the forseeable future. If and when a proper native PPC Amiga operating system is available Eyetech will start stocking and supporting these boards directly.

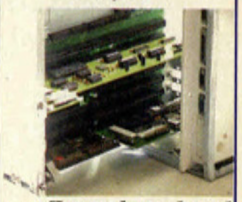
All EZ-Towers ...



...feature a slide-out mounting frame for fitting either ...



...a standard PC motherboard and cards, or...



...a Zorro board and cards (as well as your A1200).

Looking for an all-in-one package? Why not treat yourself to the Eyetech EZ-Tower Professional Pack?

Just look what you get for an unbelievable *£799.95!*

- √ ***EZ-Tower*** with full UK specification A1200, ***Kickstart 3.1/Workbench 3.1*** disks and manuals, mouse, mousemat, TV lead and 250watt psu.
- √ ***EZ-Key*** keyboard adapter, ***Windows95 keyboard.***
- √ ***25MHz '040*** processor (approx 19 Mips) with MMU & FPU and ***16MB*** of program memory.
- √ ***1.7GB TowerDrive*** with Workbench 3.1 and shareware utilities preinstalled
- √ ***8-speed CDROM*** including the ***Eyetech 4-device buffered interface*** with ***fully registered EZ-IDE*** CDROM/hard drive/IDE Zip drive/LS120 driver software (see main ad for EZ-IDE details)
- √ ***880KB floppy drive*** including faceplate
- √ Fantastic software bundle including ***Wordworth 4SE, Turbocalc 3.5, Datastore 1.1, Photogenics 1.2SE, Personal Paint 6.4, Organiser 1.1, Pinball Mania and Whizz***
- √ All items fully installed, tested and ready-to-go!

AND the option to have:

- √ An ***LS120*** 720KB/1.44MB/120MB super floppy drive/cable installed in your machine for ***just £99.95 extra*** (at time of purchase only)



The Eyetech Professional pack comes with a full EZ-Tower, new WB3.1 A1200 and ...



EZ-KEY & Win95 k/b,



25MHz '040 & 16MB fast RAM,



8x CDROM, 1.7 GB HD, EZ-IDE s/w & 4-way EIDE i/f .



The optional LS120 120MB Superfloppy

Graphics cards, scan-doublers and the single-slot Zorro option

The Eyetech single slot Zorro adapter fits close to the A1200 main board allowing a PC motherboard and selected PC cards to be fitted simultaneously. It has primarily been designed for use with Amiga Graphics cards such as the Cybergraphics 64/3D from phase5.

Please note that as there is no practical, reliable way to abstract the video signals present on the A4000 Zorro video slot from an A1200 (without soldering onto the main board) you cannot successfully use the built-in/optional scan doublers on the Picasso IV or Cybervision64/3D boards with any add-on A1200 Zorro adapters. To overcome this limitation Eyetech has produced two plug-in adapters which can be used either individually or together - depending on your existing monitor's scanning capabilities.

The **AUTO-MON** adapter works in conjunction with the Cybervision 64/3D card to automatically display the output of your current program whether retargetted to the CV64/3D card or displayed via the AGA chipset. If you have an Amiga-compatible multisync monitor the *AUTO-MON* is all you need for seemless use of your Amiga.

The ***EZ-VGA*** adapter is an external unit that attaches to the 23-pin video socket of any Amiga and automatically scan-doubles any 15Khz screen mode signals so that they display correctly on a normal PC SVGA monitor. PC-compatible screen mode signals (DBLPAL, Productivity, Super72 etc) are passed through unaltered.

AUTO-MON adapter £39.95
EZ-VGA adapter £79.95

Love your A1200 but need PC compatibility for work or study purposes? Then you need Eyetechs EZPC-Tower system for your A1200.

Just *£899.95* gets you a ready-to-run system with:

- √ A full Amiga EZ-Tower system ready to take your A1200.
- √ Jumperless 266MHz-capable 'TX' PC Pentium board with 166Mhz cpu, 32MB of memory, Windows 95 keyboard, mouse and Windows 95 operating system.
- √ High performance, high res graphics card with full screen/full frame rate MPEG playback (with sound).
- √ 32-bit high performance sound card with direct-to-disk, CD-quality recording software.
- √ 1.7GB hard drive, 16-speed CDROM, 2 x serial, 1x parallel ports and 1.44MB high density floppy drive.

AND either the Eyetech *EZ-PC* integration pack:

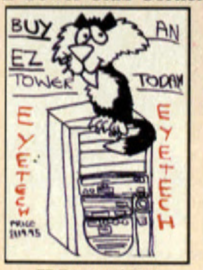
- √ The Eyetech ***EZ-VGA*** compact, external Amiga scan-doubler to display 15KHz modes - eg games - on a PC SVGA monitor.
- √ **PC-Amiga networking software** which allows all PC side hard drives, floppy drives, CDROM drives and networked drives to be read from and written to by the Amiga, including cable.
- √ The Eyetech ***EZ-Key*** PC keyboard adapter for the Amiga
- √ A remote desktop switchbox to flip monitor and keyboard between the PC and Amiga sides

OR the Eyetech *Siamese* pack (additional £99.95):

- √ The full **Siamese system version 2.5** software including retargetable graphics.
- √ The Eyetech ***EZ-VGA*** compact, external Amiga scan-doubler to display 15KHz modes - eg games - on a PC SVGA monitor)
- √ The Eyetech ***EZ-Key*** PC keyboard adapter for the Amiga
- √ The ***AUTO-MON*** automatic monitor switch to display either the PC graphics card output (including retargetted Amiga screens) or the scan-doubled Amiga output for Amiga screens - such as games - which will not retarget onto the PC display

EZ-Tower Club Corner

Send us a drawing of your EZ-Tower and we'll print the best one each month.



EZ-Tower and Lucy
by Ailsa, aged 10, from York.

EZ-Tower Pricing Information

Code	Description	Price £
EZ-Tower cases , systems, keyboards & accessories		
CASE-FT-1200	EZ-Tower case	119.95
CASE-FT-KIT	EZ-Tower DIY option	99.95
CASE-FT-EXKT	EZ-Tower DIY no PC case	49.95
A12-MGK-EZTW	EZ-Tower w/ A1200 system	799.95
APC-CF1-EZTW	EZ-Tower w/ Pent PC syst	899.95
APC-SIA-UG	Siamese upgrade for abve	99.95
KBD-A4000	A4000 k/b intl 6p minidin	39.95
ADPT-KBD-6P5P	6-pin mini to 5 pin adptr	6.95
KBD-WIN95	Win95 kbd 5p EZKEY compat	19.95
ADPT-KBD-1200	EZ-KEY auto Amiga/PC 5pin	39.95
ADPT-AUD-EZTW	Audio mixer Amiga/CD RCA	19.95
ADPT-SCS-EZTW	Squirrel int/ext SCSI adp	19.95
ADPT-DF0-TWR	Floppy extn cab & faceplt	12.95
ADPT-DF0-FP	Int floppy drive faceplat	6.95
INT-FDD-DF0	EZ-DF0 Sony PC FDD i/f DF0	14.95
FDD-INT-DRINT	Sony FDD w/faceplate/EZDF0	34.95
PLUG-IEC	Rewirable PSU outlet plug	4.95

Code	Description	Price £
Zorro adapters, graphics cards, LS120 & floppy drives		
ADPT-Z2-A12/1	1-slot Zorro 2 adapter	99.95
ADPT-Z2-A12/7	7-slot Zorro 2 adapter	179.95
ADPT-Z2-KBUG	EZ-KEY upgrade for Z2 adp	35.00
GFX-CV643D	Cybergraphics 4MB Z2 card	159.95
GFX-MONSW-AUT	AUTO-MON switch for CV643D	39.95
ADPT-GFX-SDBL	EZ-VGA 23p in-line scandbl	79.95
INT-12I-CD4	4-dev EIDE buff interface	39.95
DVR-EZIDE	Univ'l IDE/ATAPI dvr/enhan	34.95
DVR-EZIDE-SP	EZIDE w/ INT-12I-CD4/LS120	17.50
HD3-LS120	ATAPI 0.72/1.44/120MB FDD	114.95
HD3-LS120-CT3	3 x 120 MB superfloppies	34.95
INT-12C-DSKPL	DiskPlus FDD i/f DD/HD/XHD	69.95
INT-Z2-IDEPL	6xIDE(exp->10)+DD/HD/XHD FD	79.95
INT-SER-PPL	2 x 460Kbaud S + 800KB/s P	89.95
INT-SER-PJR	1 x 460Kbaud highspeed ser	46.95
ADPT-HD-2/3	2.5"HD->3.5" bay & cab adap	12.95
CAB44-2W-60C	2.5"HD 60cm cab 44-44 way	19.95

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www.eyetech.co.uk

Voted AUI Amiga Company of the Year 1996/7

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Viper 530

AMIGA GOLD FORMAT

The **A500** - one of the fastest Amigas going? Ben Vost gets up to speed with the new accelerator from Power Computing...

You've still got an A500-type Amiga? Does it make your blood boil when people tell you to ditch it and get an A1200? Perhaps a better solution would be to upgrade the 500 – you know, give it up to 128 Mb RAM, an internal SCSI controller, two IDE controllers and the possibility of adding more chipmem. Not to mention a processor that's up to 16 times faster than that tired old 68000, an FPU to match and the potential to add a local Kickstart chip. How does that sound?

Well it sounded pretty good to me, so I got our old disk-testing machine out of the cupboard and opened it up with a view to fitting this monster accelerator.

The first thing to bear in mind is that, unlike the A1200, the A500 doesn't have a processor upgrade slot, so you can't simply bang this board in the underside of your machine. Instead you're going to have to open it up – that's right, don't worry, it's easy – and plug the board inside your case.

SCREWED UP

You may well have a machine that is sealed up with what are called Torx screws. These have star-shaped heads rather than the normal cross-headed (or Philips) screws you usually see. Don't panic, you can usually get Torx screwdrivers from electrical shops, and you may even already have some if you have a kit of screwdrivers from Halfords or the like. Once you've opened up your machine, you'll need to remove the shiny metallic shielding that covers the motherboard, but first it would be a good idea to unplug your keyboard.

Keep a note of which way around the plug needs to fit onto the motherboard so that you don't put it back the wrong way around.

> *It performs well speedwise, giving the average A500 owner a sixteen-fold increase in the poke of their machine.*

The shielding is also easy enough to remove. You'll need a flat headed screwdriver to prise up the little tabs that fasten the shielding down – there should be four in all, then a couple of extra Torx screws, mainly at the edge of the shield where the side slot is on the A500. Put all that lot to one side and you'll be staring at your machine's motherboard in all its glory. Now you want to locate the 68000 chip. It's a biggun on the left-hand side of the machine running from front to back. It should have a Motorola logo and say MC68000P8 on it somewhere. You'll need to remove this to fit the accelerator card. This can be easily done by ever-so-gently levering up first one end of the chip, then the other with a flat-bladed screwdriver, keeping your fingers on the top of the chip to keep it level. Once you get the chip out, put it to one side and grab the accelerator.

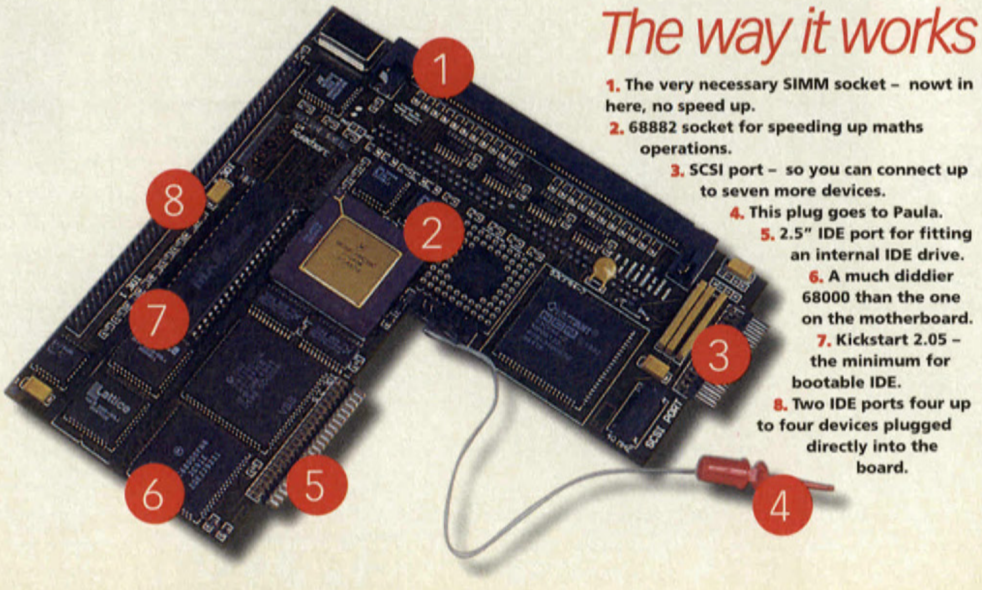
First, you'll need to attach a flying lead to your Paula chip. This is just to the right of the 68000 socket. It's an easy job – just hook the hook onto the 16th pin (this is on the side of the chip facing the back of the machine, count from the right-hand side). The accelerator has a bunch of pins coming down from its underside that you can plug into the 68k socket, but be very careful as these pins are quite long and fragile.

CONCLUSION

I've gone over the installation of this board so carefully because the documentation that accompanies it isn't very good.

However, the somewhat precarious pins for the 68k socket and poor manual aside, this board is very thorough. It performs well speedwise, giving the average A500 owner a sixteen-fold increase in the poke of their machine.

But, and it's a big but, you might still be better off buying a secondhand A1200. It's up to you.



The way it works

1. The very necessary SIMM socket – nowt in here, no speed up.
2. 68882 socket for speeding up maths operations.
3. SCSI port – so you can connect up to seven more devices.
4. This plug goes to Paula.
5. 2.5" IDE port for fitting an internal IDE drive.
6. A much diddier 68000 than the one on the motherboard.
7. Kickstart 2.05 – the minimum for bootable IDE.
8. Two IDE ports four up to four devices plugged directly into the board.

DISTRIBUTOR: Power Computing (01234) 851500
PRICE: (with no RAM) £179.95
REQUIREMENTS: A500 (or A500plus)

SPEED: ●●●●●
Fastest A500 on the planet.

MANUAL: ●●●○○
We only got a preliminary one.

ACCESSIBILITY: ●●●●○
Hey, it's not difficult, just plug and (carefully) play!

FEATURES: ●●●●●
Not one but two IDE ports, a SCSI port, room for up to 128Mb RAM, etc., etc.

VALUE: ●●●●○
Just pay for what you need.

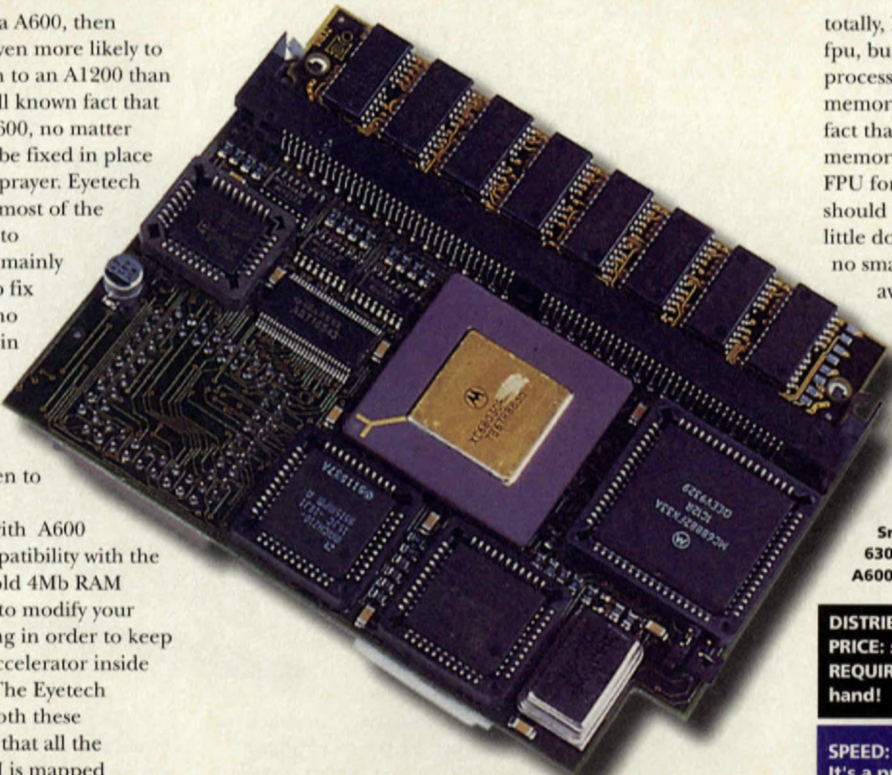
OVERALL VERDICT:
An ideal and inexpensive way to upgrade your A500 to the max.

90%

Eyetech 630/33

AMIGA FORMAT GOLD

Ben Vost catches up with the latest accelerator board from Eyetech. Will it send his heart, or his *A600,* racing?



Should you have a A600, then people will be even more likely to tell you to switch to an A1200 than A500 owners. It's a well known fact that accelerators for the A600, no matter how good, all tend to be fixed in place with sticky tape and a prayer. Eyetech reckon they've solved most of the problems with regard to accelerating an A600, mainly by allowing the user to fix the board in place at no fewer than five points in the A600, attached with velcro so you can remove it if you so choose (not recommended, I hasten to add).

Other problems with A600 installation are incompatibility with the PCMCIA socket (the old 4Mb RAM problem) and having to modify your A600's case or shielding in order to keep your hard drive and accelerator inside the case successfully. The Eyetech 630/33 gets around both these problems by ensuring that all the possible 32Mb of RAM is mapped outside the initial 4Mb area. It is also small enough to allow the hard drive to simply be moved towards the left of the machine without needing to snip into the shielding.

> **"This board comes without memory but with a 33MHz CPU and FPU for less than a hundred quid..."**

Even so, fitting this board isn't going to be fun and you really need to get it right first time because of the fragility of the interface between the 68000 chip in your A600 and the accelerator card. Fortunately, there are very detailed instructions with the board and I felt really comfortable with opening up our machine by following the briefing given. The board autosenses what size SIMM you've put in and will take one single or double-sided SIMM, up to 32Mb in size.

Eyetech have put a jumper on the board to help if you have slow memory by adding wait states, but since A600 owners don't tend to have old SIMMs knocking around the place, this is unlikely to get used. The only other jumper on the board disables the RAM totally, leaving you with the 030 and fpu, but very little acceleration as these processors need direct access to memory to be able to shine at all. The fact that this board comes without memory but with a 33MHz CPU and FPU for less than a hundred pounds should mean that there's life in the little dog yet and, as Eyetech say, there's no smaller multimedia machine available on the market.

The A600 may not have the flash of AGA graphics, but with a beefed up processor and heaps of extra memory, your Scala presentations should look a lot better

Small and beautifully formed, the 630/33 will fit perfectly into the svelte A600, without needing to modify it.

DISTRIBUTOR: Eyetech (01642) 713 185
PRICE: £99.95
REQUIREMENTS: A600 and a steady hand!

SPEED: It's a pretty fast A600 and no mistake	●●●●○
MANUAL: Even for the novice, there are no qualms	●●●●●
ACCESSIBILITY: Plugging in an A600 accelerator is never going to be the easiest of tasks	●●●○○
FEATURES: It's fast, it doesn't mess with your case or PCMCIA port. What more d'ya want?	●●●●○
VALUE: Outstanding!	●●●●●
OVERALL VERDICT: A cracking bit of kit and easy to fit.	

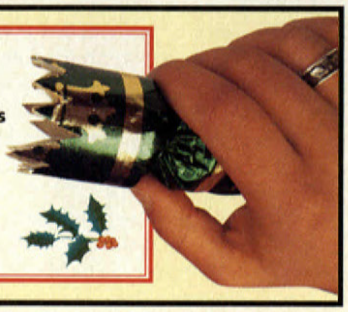
92%



AMIGA FORMAT Christmas Crackers

Ninja Tune have given us five copies of the latest Coldcut CD "Let Us Play" (as featured on AFCD19) to give to y'all this Christmas. To win one, just send a postcard to:

Coldcut Draw, Amiga Format, 29 Monmouth Street, Bath BA1 2BW



Nomaï 680RW

Wouldn't you like to re-use your gold CDs? Nick Veitch isn't so sure that he would.

It tends to take a little while to catch up with technology. This is the first review we have done of a CD-RW drive, mainly because this is one of the first that has become available at a sensible price.

Having a CD-RW drive is not the same as having a normal drive. You cannot, yet, change data on the CD-RW disc. When it says re-writeable, it means that you can erase sessions and re-use the space. It isn't like being able to edit or add to documents or files that are stored on the CD.

On to the drive itself, then. The Nomaï 680 is actually based on a Ricoh MP6200S. Delivering an approximate six speed read and CDDA features, this drive would sit comfortably as a low-to-middle-end CD player. As a writer it would probably compare most to the Philips CD2600, having a nominal 2x speed write, although under test it actually managed around 400k/s transfer speeds, which is a little bit faster.

The Ricoh engine is supported by both MasterISO and MakeCD. MakeCD allows the deletion (or formatting) of the complete disk only, although it should soon be possible to delete single sessions using MasterISO.

Writing a CD-RW takes no longer than a normal CD, and a Make CD Fast Format can erase it in around a minute. CD-RWs are usually guaranteed up to a lifetime of 1000 writes, so even if you backed up software on it regularly, the technology will probably be out of date before the CD wears out.

> *CD-RW may be suitable for some applications, but I can't see it becoming common for home computers...*

What you really need to decide before you invest in a drive like this is how many CDs would you be likely to cut? How often would you want to delete them? Obviously, as a backup device it bears some investigation, but remember that the price of ordinary write-once CDs is a small percentage of the price of a single CD-RW disc.



The Nomai – good price and good performance but little software support.

CD-RW may be suitable for some applications, but I can't see it becoming common for home computers, especially with technologies like DVD looming on the horizon. As you can't read CD-RW discs in very many normal CD drives, it makes them rather redundant for testing purposes.

As it stands, the Nomaï performs well, but there is little software support for it on the Amiga. Although MakeCD supports the CD-RW mode, and so will the next version of MasterISO, the CD-RW format is not supported by any current backup programs (which is also a problem for normal CD-Rs).

All of this is not a limitation of the drive itself, as it performs admirably. The only gripes with the mechanism are with the supplied external version, which has rather primitive DIP switch settings for SCSI ID and termination. It also requires an external transformer which, rather annoyingly, is in the form of one of those huge plugs which take up far too much room on a power strip.

For some reason, it also uses a 25-pin D-Type SCSI connector, so make sure you have the right cable for it.

The price compares quite favourably with ordinary CD-R drives, at around £100-150 more than the cheapest of similarly specced drives. If you actually need a CD-RW drive, this could well be a contender.

DISTRIBUTOR: DABs Direct.
PRICE: £445. **CD-R DISCS:** £15 each.
REQUIREMENTS: SCSI interface, CD-R software.

SPEED: ●●●○○
An average CD-R performer.

MANUAL: ●●●○○
Loads of non-Amiga specific documentation.

ACCESSIBILITY: ●●●●○
Fairly simple, but fiddly SCSI set-up.

FEATURES: ●●●●○
Full CD-R capabilities and more.

VALUE: ●●●●○
And only a tad more expensive than a standard CD-R drive.

OVERALL VERDICT:
A reliable performer, with solid CD-RW support should you need it.

83%

Sanyo VPC-G200E Digicam

We cover one, and loads more start creeping out of the woodwork. What's Ben Vost talking about? Digital cameras, of course.

The newest addition to the digital camera pack is the Sanyo Digicam (also given the forbidding name VPC-G200E).

As you can see from the photograph, it's a sleek, metallic-looking gizmo and thankfully it's a bit weightier than the Kodak models, making it a bit steadier in adult hands. It's also higher resolution than either of the Kodak models we looked at last month, as it gives a maximum picture size of 640 x 480.

Of course, it's always possible to run the Digicam in its standard resolution of 320 x 240, and there are several reasons why you may want to do this.

> ... the controls on the back of the Digicam... are very nice and intuitive – no need to refer to the manual here!

One is that although the Digicam can store an impressive 60 pictures at high resolution, that doubles when you switch it down to lo-res. The Digicam also has a special feature I've not encountered in digital cameras before – the ability to take a high speed multiple shot. This gives you nine pictures for the price of one, which you could separate into a little animation.

This camera also features a real-time display on its back in a little 2" LCD screen, but this chews up the batteries like nobody's business.

Fortunately, unlike the Kodak camera, the Digicam takes standard AA batteries just like the ones in your personal stereo, so at least you won't have to worry if you run out in the middle of nowhere – absolutely everyone sells those batteries!.

It's also an improvement over the Kodak DC20 in that you can choose whether you want to use high or low resolution on an image-by-image basis and you can delete individual images too. In fact, the controls on the back of the Digicam, which are controlled by a four way thumb rocker switch, are very nice and intuitive – no need to refer to the manual here! Like theDC-25, the Digicam has a flash but seems to have quite a good CCD because it is often not needed, even in our dingy offices.

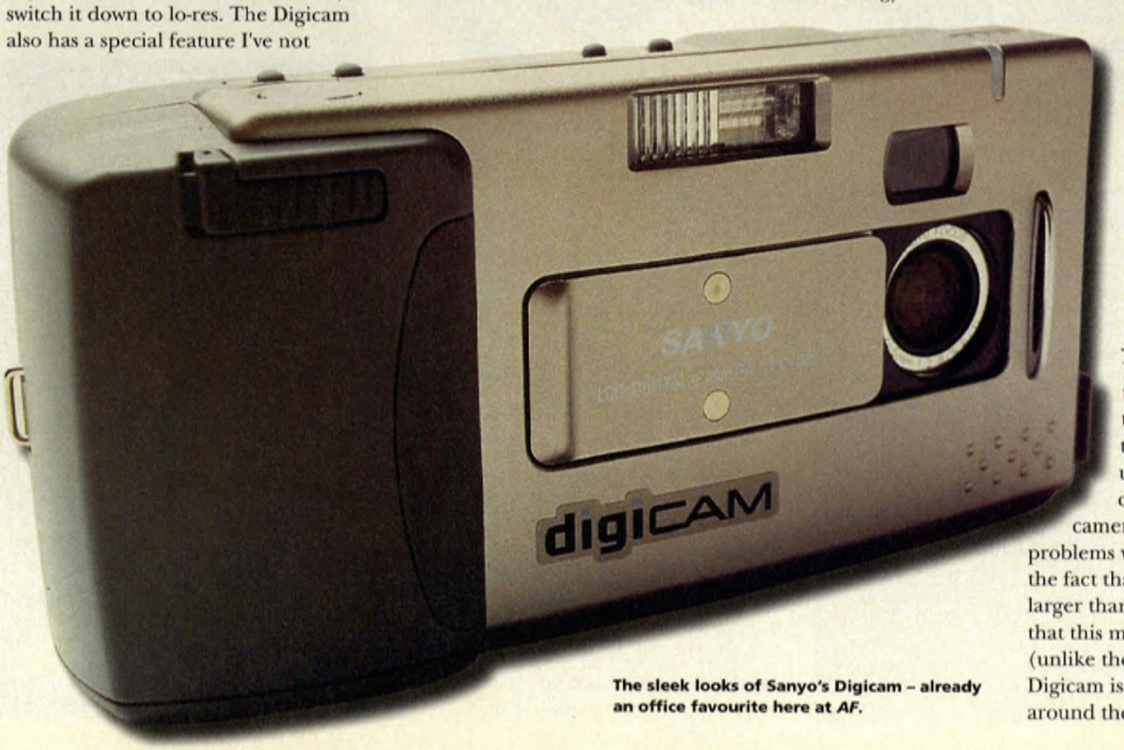
To connect the Digicam to your Amiga you attach the now familiar serial cable to the back of your machine and, via a 3.5mm jack, to the camera.

Now you're ready to download the JPEG images the Digicam stores in preparation for conversion to a native Amiga format, or to put them onto your hard drive in JPEG format. Like most digital cameras we at *Amiga Format* have seen, the Digicam shares the fault of having too narrow a field of view, resulting in images which seem somewhat distant.

The fact that the camera is not a single lens reflex means that the offset for the view finder can also be quite problematic when you're taking close up pictures.

The software that comes with the Digicam is not quite finished yet. It was written by a company called TTL Marketing who got into the idea because of their main work, which is setting up video walls and presentations using Scala and the Amiga. TTL chose the Sanyo because they were already dealers for Sanyo's video products and the choice seemed natural.

Unfortunately, we didn't manage to get the Amiga software in time, so we can't tell you how good it is. We don't know, at this point, whether features such as image rotation, for when you take portrait photographs instead of landscape, and conversion to IFF ILBM instead of forcing the user to have the images stored as JPEGs are included. We'll let you know exactly what we think of it next month. In the meantime, we have been taking images off the camera using the Mac software that comes supplied with the camera and, although it has the problems we have already mentioned, the fact that the images are a quarter larger than the Kodak cameras, and that this model has a built-in flash (unlike the DC-20), means that the Digicam is already a treasured posession around the office.



The sleek looks of Sanyo's Digicam – already an office favourite here at *AF*.

CyberVision Scan-Doubler

Get in the mode – join Nick Veitch and the scan-doubled set.

The CyberVision scan-doubler is designed to complement the CyberVision card. Quite simply, the scan-doubler doubles the scan rate of incoming signals, allowing them to be displayed on monitors which don't sync down to speeds low enough to normally display them.

This is most useful for the Amiga. Its low resolution 15kHz modes are very handy for video work and TV users, but aren't compatible with the multitude of cheap "VGA"-style monitors, which only sync down to a 31kHz signal. Even multisync monitors usually have a range which begins far above that required to display low-res screens. So the scan-doubler should be an all round good thing then? Well, it should be.

The biggest problem with the scan-doubler is actually installing it. The only physical connection between it and the CyberVision 3D card is a small ribbon cable. The card itself does not sit flush against the graphics board. After much trial, the only way to get both cards installed in an A4000 was to take out the backplane of the CV64/3D, put the scan-doubler in the video slot, place the CV64/3D on top and then, with great difficulty, attach the tiny ribbon cable that runs between them.

Because of the tight fit of the cards, it is then impossible to join both the outputs from the cards onto the backplane, unless you want to go to the trouble of completely dismantling the rear of your A4000 – not a task to be taken lightly by any means.

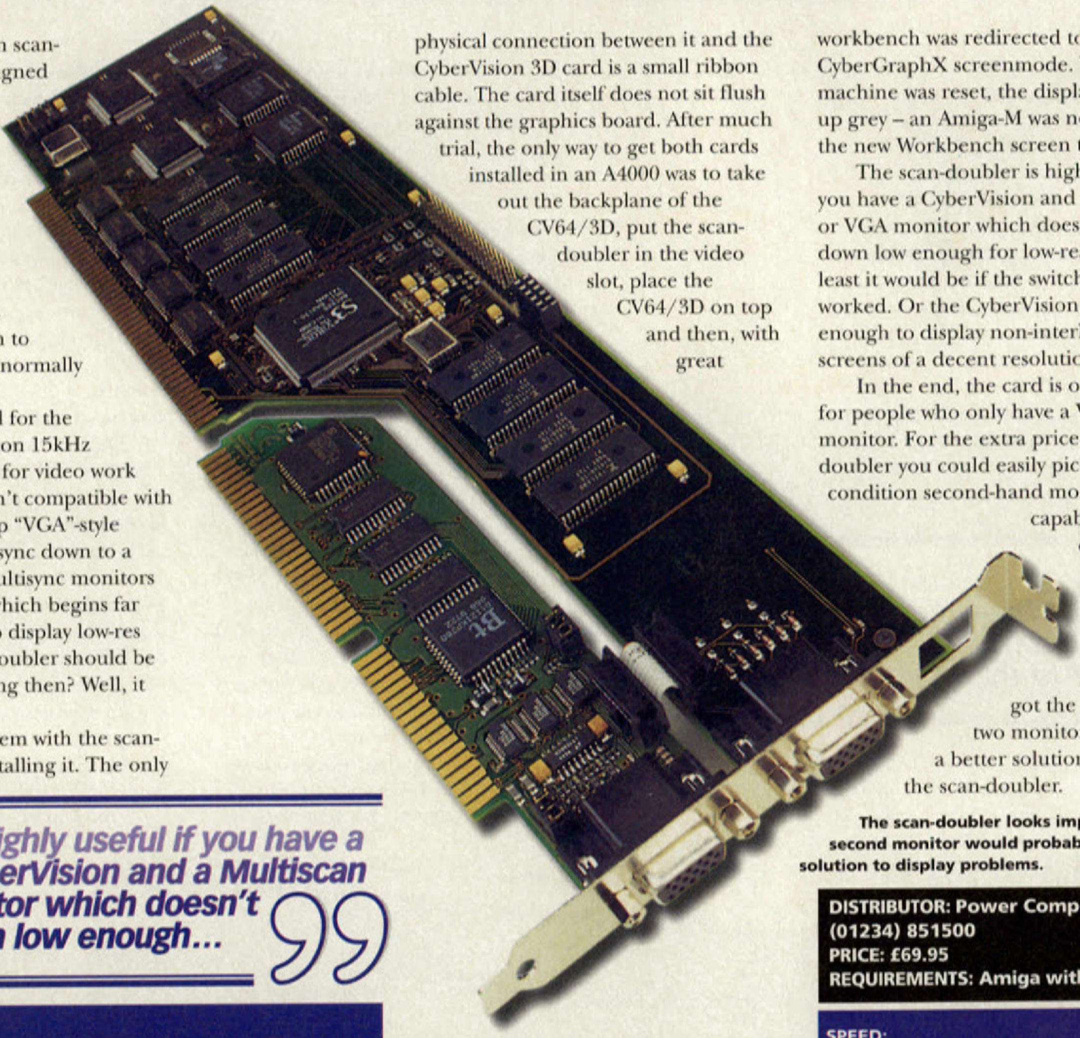
The second problem is which output to connect your monitor to. The scan-doubler is the correct answer. It can display both the CyberVision graphics (as it is connected to the card via the ribbon cable) and normal Amiga graphics. However, occasionally the display does not switch automatically. For example, on the test system, workbench was redirected to a CyberGraphX screenmode. When the machine was reset, the display just came up grey – an Amiga-M was needed to flip the new Workbench screen to the front.

The scan-doubler is highly useful if you have a CyberVision and a Multiscan or VGA monitor which doesn't sync down low enough for low-res screens. At least it would be if the switching part worked. Or the CyberVision was fast enough to display non-interlaced screens of a decent resolution.

In the end, the card is only useful for people who only have a VGA-style monitor. For the extra price of the scan-doubler you could easily pick up a good condition second-hand monitor capable of displaying the lower frequency Amiga modes.

So if you've got the space, using two monitors would be a better solution than using the scan-doubler.

> "...highly useful if you have a CyberVision and a Multiscan or VGA monitor which doesn't sync down low enough..."



The scan-doubler looks impressive, but a second monitor would probably be a better solution to display problems.

FLICKER

The Scan-Doubler is not a flicker fixer. The scan-doubler merely doubles the scan frequency to a range where VGA-style monitors can display it. Flicker is caused by using interlaced screen modes. This means that the image is built up of two fields, where alternate lines of the image are displayed in one pass, and the lines in between on the next. The result is twice the vertical resolution but, as Amiga owners know, at a cost to your eyesight!

Interlaced screens are terribly flickery, especially with general computer image displays, due to their abundance of horizontal and vertical lines.

Many solutions to reduce or avoid flicker have been tried, from simply adjusting the on-screen colours to reduce the effect, through to long persistence display monitors (the A2024). The only way to really eliminate flicker is to use a hardware solution, known as a flicker fixer.

Since the solution involves close synchronisation with the Amiga, real flicker fixers are generally only to be found as part of graphics cards, such as the Picasso IV.

DISTRIBUTOR: Power Computing (01234) 851500
PRICE: £69.95
REQUIREMENTS: Amiga with video slot

SPEED: ●●●○○
The speed of the CyberVision is more relevant. The scan-doubler is fine.

MANUAL: ●○○○○
Fitting ideas would be helpful...

ACCESSIBILITY: ●●●○○
Easy to use, but hard to fit.

FEATURES: ●●●●○
Switching between Amiga and CGX modes is suspect.

VALUE: ●●○○○
Second hand monitors cost the same

OVERALL VERDICT:
It works, but is only worth it if you haven't room for two monitors...

64%

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Stocking Fillers

If you are hunting around for pressies for your loved one's Amiga, why not try some of these sub-£30 beauties?



Logic 3 mouse

Price: £9.95 Contact: Golden Image 0181 9009291

Surely nobody is still using a Commodore mouse? If they are, they need a replacement fast – it'll speed up their work more effectively than any accelerator...

Attack Joystick

Price: £9.95

Contact: Golden Image 0181 9009291

There are some people who will never be able to play games without the feel of an ergonomically designed, satisfyingly solid stick in their hand. Two fire buttons and an autofire option come as standard on this built-for comfort model.



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Price: £9.99 each Contact: Weird Science (0116) 246 3800

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ActionPad

Price: £9.95

Contact: Golden Image 0181 9009291

Perfect for the person who has joined the second games revolution. You can't play modern games without one, so some people say.



p.OS Prerelease

Price: £19.95 Contact: Weird Science (0116) 246 3800

If you fancy running an alternative operating system, why bother emulating a Mac when you could be running a contender for the next generation Amiga?



CD32 Joypad

Price: £14.95 Contact: Power Computing (01234) 851500

Quite a few games these days offer enhanced performance on a joystick with more than one button, and Power are to the rescue with these increasingly rare official CD32 joypads. Snap 'em up while you can – or enter our competition to win one...



Mouse mats

Price: varies Contact: lots of retailers

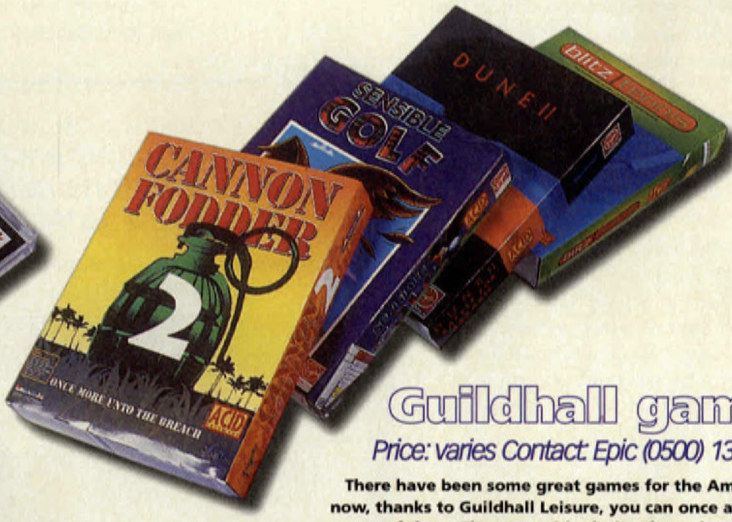
Mouse mats are almost easier to come by than pencils these days, so it's easy to brighten up your work area with a nice colourful one. Future Publishing ones are a little harder to come by, but Amiga ones should be available from your local dealer.



Zip disks

Price: £34.95 for three Contact: various Amiga dealers

Zip drives seem to be the removable media drive of choice these days. Get your Amiga some extra disks from all manner of dealers including HiSoft, Eyetech, Power and more. The price is only a guideline and you can buy the disks singly as well as in packs of three or five.



Guildhall games

Price: varies Contact: Epic (0500) 131486

There have been some great games for the Amiga and now, thanks to Guildhall Leisure, you can once again buy many of them. There's a wide choice, from the strategy of *Dune II* and *Cannon Fodder* to the fun of *Skidmarks* and more. You should be able to buy these games from Electronics Boutique and Game stores all over the country, and also from those nice people at Epic Marketing.



AF Subscription

Price: varies Contact: see page 78

You know it makes sense. What would you rather do? Trudge around town in the cold trying to find *AF* (it'll be sold out in a lot of shops), or just jump out of bed and pick it up off the doormat?

Not too difficult a question, I wouldn't have thought, and one you can easily resolve for yourselves.

Have a very merry Christmas!

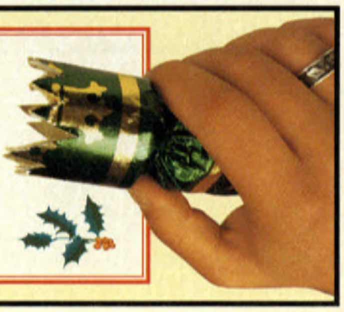


AMIGA FORMAT *Christmas ~Crackers~*

"10 CD32 joypads (worth about £150) go into a pub..."

Joystick wagglers rejoice! We have ten lovely CD32 joypads to give away courtesy of Power Computing. To increase your gaming pleasure and be the envy of all your mates, send your postcard to:

***AF* Christmas draw, Power Computing, Unit 82a, Singer Way, Kempston, MK42 7PU**



GPM1701

A good monitor is hard to find. Dave Stroud rewords the old song and gives us his thoughts on the matter.



Reviewed back in AF87, the GPM1701, (or "Microvitec M1764 Multiscan Monitor" if you prefer something with more "M"s in it) scored 91 percent.

Whether or not this was due, in part to its size, is debatable. The design is imposing enough to impress those with 14-inch TV screens, but not so gigantic that it requires planning permission from your local council should you intend using it indoors.

Ah, but it costs a lot of money doesn't it? Well, again, not that much. At least, not today. When these beauties first hit the shelves, you'd have been hard-pushed to get one for less than 600 quid. Indeed, when reviewed back in 1996 it was expected to retail for £650-700 – "good value", according to Graeme Sandiford. You can now get hold of one for under £400.

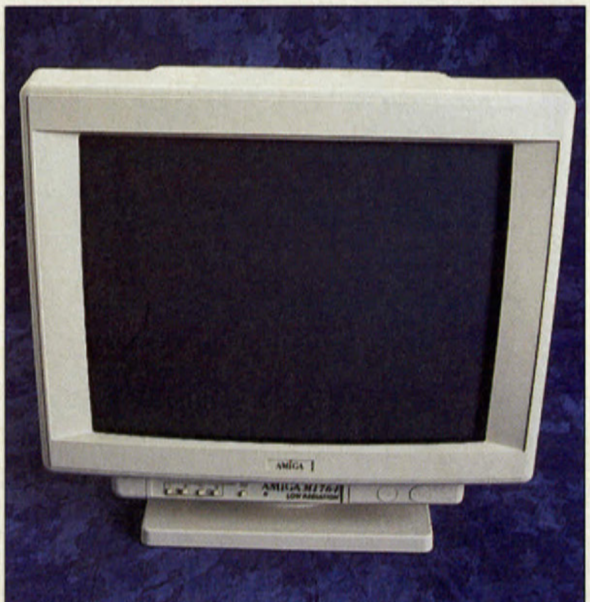
If you still think it's a bit expensive, compare a 640 by 256 PAL High-Res Workbench on a 14 inch monitor with a larger, crisper (0.28mm dot pitch), 676 by 550 on this baby in DblPAL.

You may be thinking, "that's only twice the size!" But it's also displayed on a larger screen, something which isn't immediately obvious when you're talking about dimensions purely in pixel terms. You could push this monitor up to even higher resolutions by using a graphics card, and you wouldn't have to resort to strapping one of those magnifying glasses usually reserved for the back window of a bus to your screen.

Flicking between screen modes is made easier with digitally-stored presets. Change to a new screen mode, and touch a button to bring up the on-screen menu. Alter the display to fill the screen, et voila! Next time you use the same screen mode, the presets are automagically restored. True, it takes a second for the monitor to re-sync and show the new, solid display, but that's not a problem.

This monster eats all the screenmodes you could possibly throw at it. A multiscan that displays the Amiga's default Low-Res screen mode used to be an exception to the rule, and indeed still is. But the GPM1701 happily puts on its brakes and syncs down to 15KHz should you feel the urge to play games on it.

> "IBrowse and Wordworth all benefit immensely from the higher resolutions made possible by the GPM1701"



The Microvitec 17" monitor, called the GPM1701 by some and the M1764 by others. Liked by Dave Stroud and Graeme Sandiford and given a grudging compliment by Ben Vost.

What's more, via the on-screen menu, you can control more aspects of the display than you could ever shake the proverbial stick at. It's all there – multiple geometry controls, user-definable colour temperature, as well as the standard contrast and brightness – all within easy reach.

There's even a 'manual de-gauss' button next to the on/off switch. I'm not entirely sure of the technical reason for it, but it makes a nice 'clunk... ...chik' noise and wobbles the display about whilst it 'de-gausses' the picture. Worth £400 of anyone's money alone, in my book. Invite your bog-standard-A1200-owning neighbour in for a cup of tea and a game of SWOS. If he dares to threaten your goal (heaven forbid!), swiftly remark about the marginal degeneration in display quality and press that 'degauss' button. The display wobbles. He shoots! He skies the ball!

...what a shame <evil grin>...

NO SPEAKERS

The only thing you could really fault about this monitor is the lack of built-in speakers. Still, a 20-watt amp, a couple of half-decent speakers from a car boot sale for one pound sterling and some audio cable, and this is no longer a worry.

The appreciative SWOS crowd sounds so much more satisfying than they would when heard through monitor speakers.

But if all you're going to do is just play games, you're missing out. On my under-developed 6Mb A1200, Workbench, Personal Paint, IBrowse and Wordworth (to name but a few) all benefit immensely from the higher and flicker-free resolutions made possible by the GPM1701. The refresh-rate may be a tad slow, but that's no fault of the monitor. A PPC/060 card ought to do the trick...

BEN'S VERDICT

I use one of these monitors on my A4000 at work. It's OK. Given the choice however, I would much rather ditch it and go for something truly spectacular, like a 17" Idek or Sony. The problem is that these monitors would almost certainly not be able to display the Amiga screenmodes we all know. To get the best from your Amiga/monitor combination you really need a PicassoIV (built-in flickerfixer you see) and a really good monitor – not this half-hearted effort.

DISTRIBUTOR: Gasteiner 0181 345 6000
Price: £399

OVERALL VERDICT:
An imposing monitor, and an excellent buy, especially due to the drop in price. Beware though: some earlier models weren't absolutely perfect in terms of display quality.

93%

"This year, January comes before Christmas!" Hit the January Sale at Golden Image NOW

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RAM CARDS A1200

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Catweasel for A4000 ... £59.00
Buddha IDE Controller for A1500/2000/4000 ... £55.00
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Buffered interface for A1200 with full IDEFIX'97 software allows you to connect 4 ATAPI devices to A1200 ... ~~£59.95~~ £39.95
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Fear not with our Buffered Interface

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Specially made hardware and software. Allows 4 ATAPI devices, ie, 2 IDE hard disk & 2 IDE CD Rom to Amiga 4000 internal IDE controller ... ~~£59.00~~ £39.95

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External Floppy Drive for all Amigas ... £39.95

Internal Floppy Drive A500/500+ ... ~~£28.00~~ £25.00
Internal Floppy Drive A600/1200 ... ~~£28.00~~ £25.00
Internal Floppy Drive A1500/2000 ... ~~£35.00~~ £28.00
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Hard Drives plus Buddha IDE Controller 1.2 Gig ... ~~£189.00~~ £169.00 *Starbuy*
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Winner of Gold Format Award in Amiga Format February 1997

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*(for A500/A500+ Alfapower hard drive controller and Hard Drive is required). A1500/A2000 supplied with IDE controller & software. A4000 supplied with AlfaQuatro interface & Full IDEFIX software.

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All 2.5" Hard drives come formatted and installed with Workbench, including IDE Cable, screws, software and instructions supplied. *(please check for availability)*

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80Mb ... ~~£69~~ £59
120Mb ... ~~£79~~ £69
170Mb ... ~~£85~~ £69 *Starbuy*
250Mb ... ~~£89~~ £79
340Mb ... ~~£109~~ £99
420Mb ... ~~£119~~ £109
540Mb ... ~~£129~~ £119
810Mb ... ~~£149~~ £129 *Starbuy*

Star Buy

IDE 3.5" Hard Drives for A1200/4000

850Mb ... ~~£129~~ £105
1.7Gig ... ~~£155~~ £129
1.2Gig ... ~~£135~~ £110
3.2Gig ... ~~£200~~ £179
2.1Gig ... ~~£175~~ £139
*5.0Gig ... ~~£329~~ £279
3.8Gig ... ~~£229~~ £199

We will partition and format Hard drives and install Workbench. *5.0Gig will fit and work on Amiga Computers contrary to warnings given
(Amiga Format Gold Award winner August 1997)

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4Mb Simms ... ~~£20~~ £15
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Zip Rams *(suitable for A3000, Alfapower, At-Bus 2008 & Oktagons)* every 2Mb ... £40.00

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Accelerator for A600

Viper A630 40MHz + 4Mb *(not upgradable)* ... £110.00
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Miscellaneous Products

Philips monitor to Amiga cable ... £6.00
Printer cable ... £5.00
SCSI case with PSU ... £49.00
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44pin 3 connector cable ... £5.00
44pin 2 connector cable ... £3.00
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AlfaQuatro 3x40pin Interface & IDE cables ... £39.95
DD floppy disks (50) *including multicoloured disk labels* ... £13.00
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3.5" Hard Drive Kit for A600/1200 + *Install software* ... £15.00
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LSD compendium volume 3 over 600mb of PD on CD £5.00

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Stereo jack (3.5mm) plug to 2 x RCA phono plugs 1.2 meter long ... £5.00
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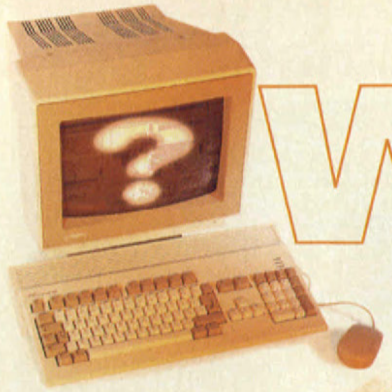
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Workbench

In true Xmas spirit, Graeme Sandiford gives free advice and answers to the poor and needy. Send your problems to his grotto at: ***Workbench • Amiga Format • 30 Monmouth Street • Bath • Somerset BA1 2BW.***

POWER COMPUTING

I am a Computer Engineering student and I use my Amiga as a DTP, DTV, animation and programming machine. Here is my configuration: Amiga 4000 (desktop version) KickStart version 3.1 WarpEngine 4040 (608040 @ 40 MHz) CyberVision64 4 Mb VRAM 64 Mb RAM Emplant Deluxe 9 GB Hard Disk Space (2 x 4 GB SCSI HDs + 2 x 524 Mb IDE HDs) External CD-ROM (NEC 3x)

1. Almost every time I try to use a Demo or SlideShow or even a music disk I get trash in my screen and a lot of noise (and I am sure that it is not music). Why is this?

2. I want to upgrade my Amiga to a PPC. Do you recommend me to wait until GW2000 brings up something or to buy the CyberStorm (or whatever it is called) Phase5 604e accelerators? What about the A/BOX project, or the PIOS?

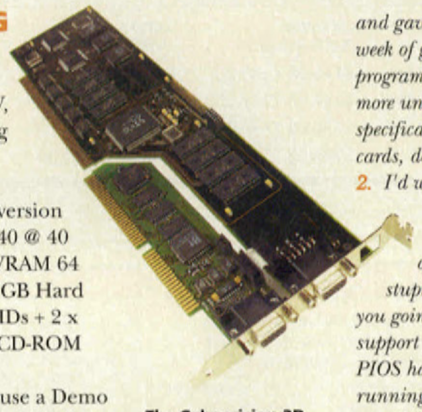
3. I want to upgrade my video card either to a CyberVision64 3D or to a PicassoIV. Which one do you recommend for me?

4. I want to use other operating systems as an option to AOS. I am considering pOS and Linux. Could you recommend any others? Where would I find them?

5. Is there a programming tool like Delphi or Visual Basic for the Amiga?

6. I am using the PC at work, so I installed the very nice UAE. Could you give me an Internet address where I can find UAE upgrades, disk-images, etc.?

Tomas Agote Bs. As.
Argentina



The Cybervision 3D with the rather difficult to install scan doubler

1. It's most likely that the demo programs don't like your 040. I have a WarpEngine, and gave up trying to run demos within a week of getting it. Trying to get demo programs to run on a graphics card is even more unlikely. Unless the demo programs specifically say that they support graphics cards, don't expect them to work.

2. I'd wait until the promised cards appear, but more importantly, I'd wait until there is software to take advantage of them. It's all very well having a stupidly fast PowerPC card, but what are you going to run on it? Let the software support make your decision for you. The PIOS has been advertised, but not as running the Amiga operating system.

Currently there is no way to run the Amiga operating system on anything other than 680x0 processors, so you might as well ask about Pentium systems as well. At least they run UAE.

3. Either! Both are excellent graphics cards, and there isn't a great deal to chose between them. I can't help but wonder what kind of performance increase you expect over the Cybervision card you have already. Specifications and speeds look great on paper, but if you pick one card over the other because of promised add-on modules I would recommend you wait until the modules are actually available.

4. At the moment pOS is really only a curiosity. It looks nice, and when it's finished I'm sure it will be worth trying. The price will probably be low enough to make it worthwhile. As for Linux, well, it's free so you really should try it and decide for yourself if you like it. Your system will run it very well indeed, and with Xwindows you can have a very attractive front end. There are many graphics programs for X which should keep you happy. Try NetBSD as well, which is very similar.

5. No, sadly not. The Amiga led the field with visual programming tools with ground-breaking products such as CanDo, Hyperbook and AmigaVision. However, they were never developed into fully fledged application programming tools with the power of Delphi or Visual Basic – although CanDo got very close. The last release of CanDo supported AGA chipsets and was very impressive. If you can, try it.

6. For more information on the Amiga emulator for the PC, visit: http://www.eastwind.com.au/homepages/timgunn/uae/pic96.html

MORE HARD PROBLEMS

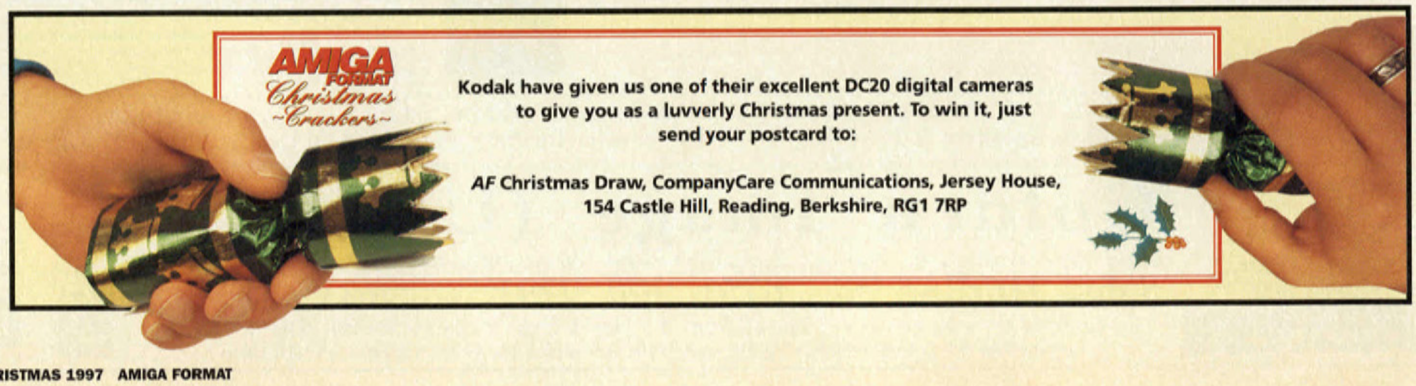
I have a very basic A1200 with 4Mb RAM and a 170Mb IBM 2.5" hard disk. When I try to set up the hard disk everything seems fine until I exit the program and the computer reboots, then the hard disk disappears again. When I use the HDSetup program the drive icons come up but after a reboot they disappear again. When I go to my dealer all they do is give me a replacement unit. Please help me because I haven't had a hard disk in my computer for quite a while now and a lot of my software is useless without it.

Brett Fagan
address unknown

It sounds as though the brand of 2.5" hard drive is not totally compatible with your Amiga's IDE interface. There are two things to try. The first is to change the MaxTransfer setting in the HDToolbox utility. The second is more drastic and involves cutting pin one on the ribbon cable to the hard drive. If you still can't get it to work, get your money back and buy a 3.5" drive.

MALCONTENT

In the Workbench section of Issue 101/September 97 of *Amiga Format*, you answered a letter from Mr. Kelly about 'PC DISK ERROR'. I'm not content with your answer, and the following could



also be true.

The pain of Windows95 is that PC-floppies formatted under Windows95 could be different to the MS-DOS format, and so they may be incompatible with MS-DOS or the Amiga's CROSSDOS utility. Disks in that kind of format are useless for the Amiga.

The solution (and answer to the letter) is therefore, in my humble opinion, that the PC-floppies should be (standard) DOS-formatted. That can be done in the MSDOS prompt of Windows'95 or directly in DOS.

Willem Schaaij
Holland

I'm sorry you aren't content with the reply. However, I've been using disks formatted under Windows95 with my Amiga4000 under CrossDOS ever since Windows95 was released. Windows95 formatted floppy disks are virtually the same as MS-DOS formatted floppies, unless you try to use disk compression for example, and so there shouldn't be any compatibility problems. But hey! I'm not infallible (see next letter). If your information helps Mr Kelly, then that is the main thing.

YELLOW PERIL 2

Your reply to Keith Wilson (Workbench, Yellow Peril, Issue 101) was a little off the mark. Well OK, a mile away. The yellow screen problem is easily solved. There is a pack of resistors directly behind the RGB connector, going the length of the connector. Looking from the back, connectors facing you, count along to the 7th resistor behind and closest to the RGB port. This should be the faulty one. (It was when I had the same problem). This needs replacing, with a good connection.

I do not know the resistance of this resistor, but you should be able to find it out. The person who fixed it for me didn't tell me the resistance. I'd recommend getting a qualified electrician to test the resistors and find out the faulty one, as it may not actually be the 7th one.

Darren Smith
Potters Bar

Well, at least I was right when I said it was a hardware problem. Within a kilometre at least. If you hadn't been lucky(?) enough to have this happen and see it repaired, you'd never have known, would you? Hopefully Keith's machine can be fixed in a similar way, and he can find out which resistor is to blame. He won't need to know the resistance, as the coloured bands will indicate it.

A4000 GETS NETTED



1. I have recently acquired an A4000 with a SCSI CD-ROM drive and was wondering what upgrades would be best to get for Internet use. I am getting a fast serial card (Hypercom 3Z) and wanted to know whether it would be better to get an accelerator (if so should I wait and get a PPC one?) or a graphics card.
2. I have an external CD-ROM from my A1200 (AIWA ACD300) is their any reason I can't connect this to my setup, giving me two CD-ROMs, as otherwise it would just sit around in its box doing nothing.
3. Is it possible to make/have made a cable to connect a video recorder's SCART output to the monitor's (Amiga Technologies M1438s monitor) video input and use the video as a TV tuner. This will allow me to get rid of my TV which has almost had it.

Jonathan Stead
via email

1. A graphics card will be a huge help, as it will speed up the rendering of graphics images as you browse the World Wide Web. As the limiting factor in your browsing will be the modem, I'd hold off on the accelerator and see what support the PowerPC cards are getting.
2. No reason at all. If the CD-ROM is SCSI, you should be able to connect it to the same SCSI interface you use for the Toshiba mechanism. Make sure the SCSI ID's are set to different values, and that termination is sorted.
3. Yes, it should be. The output from the video recorder will be R,G,B and sync operating at 15kHz. The M1438 is a multiscan monitor which should cope with this frequency. Your local PC or video repair shop should be able to make you up a cable.

A4000 GETTING ON

I am in a bit of a tiz over what to do for the best. I have an A4000/030, 18Mb of RAM, CD-ROM, GVP SCSI with HD, IDE HD and a multisync monitor.

It was good when I first got it but now it's a bit long in the tooth and AGA just can't hack it, especially on the Internet. I use it for most things and my kids use it for homework, art, games and the Net. The thing is, I need speed and fast colour. Should I wait for the price of PowerPC cards to drop and software to arrive? (I think £500 is just too much for a processor with no software support). Or should I buy an 040/40, as they have dropped in price? Is this going to be too slow in three months time? Or should I wait to see if the A/Box ever arrives?

Is the Picasso IV better than the Cyberstorm graphics card and is the flicker fixer needed? Out of my small clan of Amigans I am the only one not to be lured by the dark side (PC) but I am under constant pressure to convert. For the £500 I have to spend they say I could build a P133 with 24-bit graphics, 16-bit sound and cool software and I could, I've priced it up at the local computer fair. I go monthly in the hope of seeing something for the Amiga and watch my mates go from 586 to P75 to P100 to P133 and get extra SIMMs and bigger HDs
So could you please help me, my head is spinning !

Mr. J.McKenny
via email

As with the previous letter, I'd recommend you get a graphics card. This will speed up almost all your serious software applications. As you have a multiscan monitor, you don't really need a flicker fixer so save your pennies. The speed of the PowerPC cards means than money spent on an 040 would be wasted, so hold on and see what happens on that front.

I think you have answered your own questions with regard to the PC. You say your friends upgrade from P75s to P100s to P133s, and buy more memory and hard drives. They have to! That's the cost of PC ownership. Already their systems are obsolete – the slowest Pentium is now a P166MMX. Your friends will have to junk their existing motherboards and buy new processors.

Pretty soon they'll need to junk their SIMMs and get new memory chips. And then Windows98/NT5 will come along and they'll have to buy yet more hard drive space to store everything. Is this really the kind of computer system you want to buy into? It might cost you £500 now, but you can be sure that you'll be spending the same again... and again... and again to keep it running.

A600 GOING CHEAP?

I have recently seen an Amiga 600 advertised in my local press for around £30 which seems a bargain. However, even though this would be a second computer, I was wondering if there is any way to upgrade the A600 to current specs, for example, a tower, AGA chipset and PowerPC card as I don't really want it to be left as a relic of the past. Will the new Zorro expansion cards for the A1200 such as those from Blittersoft fit onto the A600's motherboard if it is placed into a tower case? Any advice that you have on the subject would be very gratefully received as I am at a loss as to what to do.

Ben Buckley
via email

"Don't touch it", would be my advice. I too was tempted by a cheap A600, and it now sits under a pile of rubbish in the corner, minus the floppy drive which was donated to an A1200. The A600 is a total dead-end. It cannot be expanded in any meaningful way. None of the expansions you mention will work on an A600. No AGA, no Zorro. It's taken until now for the memory and processor to be upgraded with a new card promised. I'd walk away, unless you have some plan involving using the A600 in an embedded control application.

HARD DRIVE BOTHER

I recently bought a 2.5" 270Mb IBM

Continued overleaf ➡

hard disk second hand. At first it would not work at all, so I tried cutting the first wire on the IDE cable. I was then able to boot from the hard disk if I did a warm reset, but not from cold.

I then started to install things on it, but some programs would not work. Alien Breed 3D, Worms, Wing Commander and Wordsworth worked fine, DPaint IV told me "can't open your tool DPaint" as did a number of PD titles, and the Dune II installer program told me it "can't lock HD1".

All of these programs do work on my other A1200 which has an almost identical set-up. I have tried using a different power supply (from an A500) but that made no difference. Please can you help?

James Rollison
via email

This sounds like the old Max Transfer program. Use HDToolbox to set a lower speed, (try $1FFF) and that should solve your problems.

HOW DO I?

I have just bought a second hand A600 with a hard drive. I also buy your magazine every month but I don't know how to install the hard drive games or utilities. Could you please tell me how to do this?

Scott Whyte
Alexandria

The hard drive should appear on your Workbench like any other disk drive, in fact probably two disk drives called Work: and Workbench:. Make a folder in the Work: partition and copy the files from the floppy disk. Many programs have Installation routines which automatically install programs. When you run the Install routine (usually called "Install") you will be asked where you want to store the files. Select your hard drive, and Bob's a clone of your mother's brother.

CRASH HAPPY



If your CD-ROM drive doesn't read certain CDs, it may be the software to blame.

I have an A1200 with 6Mb and a 25MHz 030 Apollo Lite board and a Quad speed CD drive connected via the PCMCIA slot.

1. I recently purchased an Enterprise modem from Power Computing but when I use *Ibrowse* it keeps crashing. I am using the standard Amiga serial port – is this the problem?

2. The CD-ROM drive doesn't recognise the CD despite the fact that the Amiga reads the drive itself. The drive is an IDE with an Alfa Data controller.

Steven Stocks
asse00288@cableinet.co.uk

1. Not necessarily. In fact, the standard Amiga serial port should support most modems. Try using Ibrowse *to read local HTML files stored on disk. This will test whether your problems have anything to do with the serial port or modem. I'd guess that it will still crash, indicating that it has a problem, possibly with your accelerator card.*

You'll have to be more specific to help track down the problem. Does it crash when loading particular graphics or particular HTML files? What is the error message?

2. If the CD-ROM drive doesn't recognise any CDs then you have serious problems. The CD drive might be faulty, or might not be connected properly. Or the CDFS (compact disk filing system) might not be installed. If it doesn't recognise only certain CDs, then the CDs could be to blame, or you might need to update your CD-ROM drivers. Some drivers have problems with CDs written in a particular format.

MODEM SPEEDS

Having recently signed up to the net, I am interested in knowing exactly how fast my modem is going. Is there any software that you know of that would tell me at what speed my modem connects ? (Miami always says that it connects at the computer-to-modem speed set in Miami).

As soon as I get my keyfile for Miami (Assuming VaporWare get their act together), I'll be able to use MiamiSpeedMeter, but that only gives average cps, I believe.

Ian Grant
via email



Raw modem speed isn't the only bottleneck to Internet transfer speeds.

As you know, the speed at which your modem connects is one thing, and the speed at which data is transferred is another. This is especially true when you connect to the Internet.

Your modem can be connected, and yet for periods of time there is absolutely no information coming down. This means that when you are transferring information over the Internet, you won't be testing the speed of your modem. You'll actually be testing the speed of your connection to the Internet Service Provider.

There is a simple way to test the speed of your modem. Find someone else with a modem and call them up directly using a terminal program, such as Termite *or* NComm. *Transfer a 1Mb file and time how long it takes. Try the same thing using FTP while connected to the Internet, and you should be able to see the difference.*

AMI VGA?

I remember hearing some time ago of someone using an SVGA monitor with their Amiga. I have already found a company who will supply a 23-pin (Amiga) to 15-pin (VGA) cable and I can easily get a VGA monitor.

I was wondering whether any special drivers would be needed, and once connected, would it be possible

TOWER POSER



All towers have standard drive bays where you can store 3.5" devices such as hard discs.

I have some questions regarding PC towers.
1. Are all towers made to the same standards?
2. Which size of tower will my A1200 motherboard fit inside without modification (mini, midi or full)?
3. Could I install a cheaper 3.5" hard disk into the tower without much cutting away at the metal shield?
4. Will the A1200 disk drive (including the drive front) fit into the tower?
5. What do I do about the keyboard?

Wesley Potter
Wigan

1. No. There is no international tower standards committee. Generally, the more you pay the better the case and the higher quality the power supply. A good quality case will have properly finished metal edges so you don't slice your fingers, for example.

2. Always go for full sized cases. Other sizes might work, but it's almost impossible to know without trying them first.

3. You shouldn't have to cut away anything to fit a 3.5" drive in a tower. The tower includes bays for 3.5" drives, and you simply slot the drive in and screw it into place. The required cable connects to the Amiga with no shield cutting required. Don't even consider a 2.5" drive.

4. The floppy drive will fit into the tower, as it is a standard size for floppy drives. However, the A1200 doesn't have a front panel for the disk drive – it's moulded into the A1200's casing. You'll have to buy a special Amiga disk drive front panel or use a PC floppy disk and some extra interface electronics. Speak to the nice people at Eyetech.

5. Good question. You have two choices. First you can chuck it in the bin and use a PC keyboard. You'll need an interface to do this. Secondly you can try and find an external Amiga keyboard, such as the ones which came with the A2000, A4000, A3000 or CDTV. You'll then need to bodge some kind of interface. There are various hacks on Aminet.

A Quick Guide to...
ALIEN DISK FORMATS



1 The floppy disk is an ideal way to quickly move data between computers. It's cheap, fairly quick and you can rely on the hardware being present in all machines. It's often called "sneakernet".

2 Although all floppy disks look similar, there are several sorts, the most popular being Double Density and High Density. The HD disks have an extra notch in them. They can store about 1.76Mb of data. DD disks store half this.

3 Before a disk can be used, it needs to be formatted. The formatting organises data on the disk, and each type of computer does it slightly differently. The Amiga can read floppy disks formatted on the Apple Mac, and the PC under MS-DOS (extra software is required).

4 The A1200 has a DD disk drive as standard, the A4000 (and some A3000s) have a HD drive operating at half speed. All modern PCs and Macs have HD disk drives, but they will read and write to DD disks. This means that when using the A1200 you must stick to DD disks.

5 The Amiga can read PC format disks with CrossDOS, a utility provided with the Workbench. It's actually a new DOS Driver (look in the Storage disk) which creates a new device called PC0: for the Amiga to use.

6 Reading and writing to Mac format disks is also possible. Mac emulators (such as ShapeShifter) do it automatically, but there are separate utility programs for reading these oddly formatted disks.

7 Once you get the data onto the disk, you are only half way there. Remember that MS-DOS truncates all filenames to 8.3 (so use Zip to pack them up first). Also remember that you cannot run PC or Mac programs simply by reading the data from the disk – you will need to use an emulator.

for me to be able to display a screen resolution of 640*512 without flicker?

David Hodge
via email

There are no guarantees that an SVGA monitor will work with an Amiga. You'll need to use a mode such as Multiscan Productivity, and copy the "VGAOnly" file into the monitors drawer. If all else fails, a utility called "MonEd" does various evil things to the Amiga's video output and this sometimes helps.

The bad news is that even after all this, the Amiga isn't pumping out the exact frequency needed by the monitor. It's close enough for some, not enough for others. You will just have to "try before you buy" or get it in writing that if the monitor doesn't work, you can have your money back.

Even if it does work, you will only get close to a 640 by 512 display. The best that I have used is a 640 by 400. There is no flicker, but a little shimmering. It's worth trying though.

Remember that not all programs, especially games, support these high scanning rate graphics modes.

BIG MEMORY



A basic A1200 could be used for TV work but it would be good to expand it.

I was reading your feature on "Take over TV" and I feel like splashing out on a large amount of memory. But I get confused on SIMMs. Can I use a 72-pin 32Mb SIMM? Is this fast enough to play back an animation at 12 frames per second (fps).

I'd like to start programming the Amiga for games. I already know Commodore 6510 Assembly and Cobol and some BASIC but could you recommend a good start-up language for the Amiga? I'd like to use Assembly but the Amiga is a big computer.

If I buy a sampler, how much can I sample with about 2Mb?

Dean Fennell
address unknown

The size of SIMM you can use depends on where you are going to put it! Some A1200 accelerator cards accept more memory than others, and you will have to check with the manufacturer. The speed of animation playback depends on so many things it's impossible to give a definitive answer. The number of colours, the screen-mode, the processor used and the kind of images to be replayed all play a part. The size of the SIMM is not a true speed factor, although if you have enough memory to store all the images rather than reading them from disk, it will obviously be a Good Thing.

Forget everything you know about COBOL. It's a brain-dead, dead-end language with no advantages in today's world of microprocessors and personal computers. Once you know one form of Assembly, moving to another CPU isn't a big problem. The 680x0 family are a joy to program, with lots of registers, sensible memory addressing and powerful instructions. You'll love it. Alternatively, look at C. It's fast, compact and can be used for games programming.

As for sampling, it depends. If your sample is a mono, 8bit sample at 8kHz, you can store over four minutes. However, a much clearer, stereo 20kHz signal will only let you sample less than one minute. Swings and roundabouts.

IF YOU HAVE A QUERY...

At *Amiga Format* we aim to answer as many questions as possible. Unlike some magazines, we don't just concentrate on our areas of expertise – we take on all your problems (as long as an Amiga is involved). Here are a few tips on sending in questions:



Graeme Sandiford

- Be concise.
- Detail the problem as best as you can.
- Describe the events that caused the problem.
- Give full details of your equipment.
- Make sure your question is relevant and wouldn't be more easily solved by contacting the dealer from whom you bought the goods.

Bear these points in mind and fill in, photocopy, or copy the form below as best you can. Unfortunately we cannot reply personally.

Send your letters to Workbench, *Amiga Format*, 30 Monmouth Street, Bath, Avon BA1 2BW.

Your Amiga:

○ A500 ○ A500 Plus ○ A600
○ A1000 ○ A1200 ○ A1500
○ A2000 ○ A3000 ○ A4000

Kickstart version

○ 1.2 ○ 1.3 ○ 2.x ○ 3.x

Hard Disk: .... Mb

Manufacturer: ....

Extra RAM fitted – type, size, (Mb) and manufacturer:

....

....

Details of other hardware:

....

....



Amiga.net

ON THIS MONTH'S CD

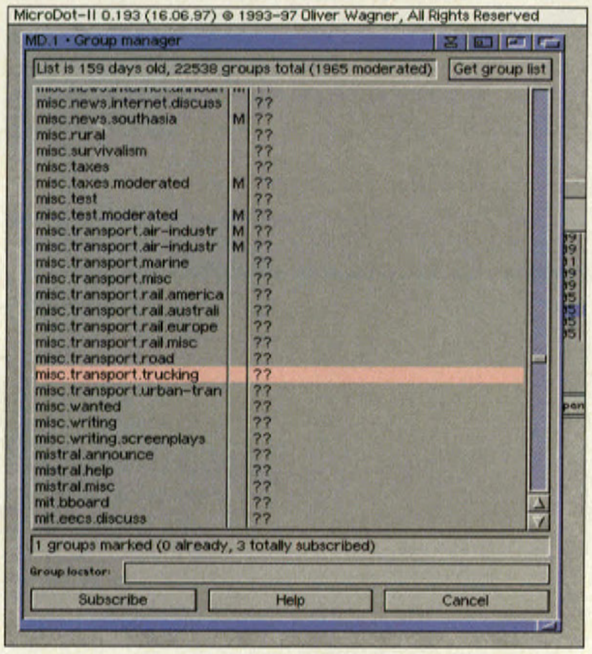
AFCD21:-In_the_Mag-/Amiga.net

Dave Cusick provides an introduction to Usenet and explains how to join in online discussions about everything from computers to cartoons.

Much is made of the fact that there are some extremely shady parts of the online world which are populated by some strange and twisted individuals. One of the areas most frequently mentioned in this respect is Usenet.

Although there is undoubtedly a fair bit of very unpleasant material available through certain Usenet newsgroups, there are also a great deal of helpful or simply entertaining groups where dodgy binaries are frowned upon, and these shouldn't be ignored if you want to make the most of your Internet connection.

If you've got a hardware problem, there are few better places to find the answer than the techie newsgroups; many a computer problem page writer has found solace in the comp.sys groups. If you've got a favourite TV show you would like to discuss with other admirers, then the alt.tv section is for you. Oh, and for the sadder souls out there, you can find thousands of alt.binaries groups.



The range of newsgroups available on an uncensored news feed such as that provided by Demon is absolutely phenomenal.

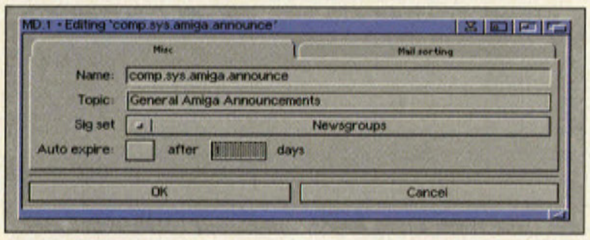
> ...the newsreader you opt for must offer particular features in order to cater for your online habits.

HISTORY

Usenet was invented by three American graduate students in 1979, as a UNIX user network. As you'll no doubt have realised, thanks to the large number of Amiga net programs which are essentially UNIX ports, the early computer networks were UNIX-based.

Structurally, Usenet owes much to the earlier ARPAnet, which was created by the Advanced Research Projects Agency of the US Department of Defence. Basically Usenet enables people to share their ideas and opinions with other network users via "postings" which are carried around the network like a sort of open-to-all email message. Usenet can be accessed via the Internet, but it doesn't owe its existence to the Internet in the same way that, for example, the Web does.

Until a veritable Internet software explosion gripped the Amiga world a couple of years ago, newsreading on our beloved machine basically boiled down to using one of two programs, *Tin* and *Thor*. *Tin* will be familiar to long-term users of ISPs such as Demon. It offered a good degree of functionality but featured a clunky text-only interface. It's still used today by some die-hards, but it's scarcely cutting edge software. Thor, on the other hand, was always ridiculously feature-laden, but its power came at the expense of the horrifically complicated configuration procedure, which at times made *AmiTCP 3* seem straightforward to install. The configuration process has been somewhat simplified now, but it's still not something that novices will want to attempt.



Microdot has lots of nice features which make it a joy to use, such as the facility to assign particular signature sets to particular newsgroups.

NEWSREADERS

More recently, these two stalwarts have been joined by a handful of *MUI*-based newcomers. First came *MNews*, which looked lovely but ate memory as if it was a Win95 application. It has since been joined by *FFNews* and *Microdot*, to name but two programs. I personally use *Microdot* – primarily because it doubles as a great email client, but also as it's got pretty much all of the features you need for day-to-day newsreading.

A very important point to make here is that the newsreader you opt for must offer particular features in order to cater for your online habits. Unless you happen to be lucky enough to have a permanent Internet connection, you will probably want a package which is able to support off-line, as well as on-line, newsreading.

An online reader will display a list of headers from which you choose the articles you wish to download. With an off-line reader you'll simply download hundreds of articles at the start of your Net session, which you can then read at your own leisure.

Because both styles of newsreading have advantages and disadvantages, I find it convenient to be able to switch between the two modes without having to change newsreading software, hence my choice of *Microdot* as a news client.

Switching is then simply a case of going to the Settings/General Settings menu, flicking to the Network page, and clicking the appropriate radio button at the bottom of the window.

MIND YOUR MANNERS

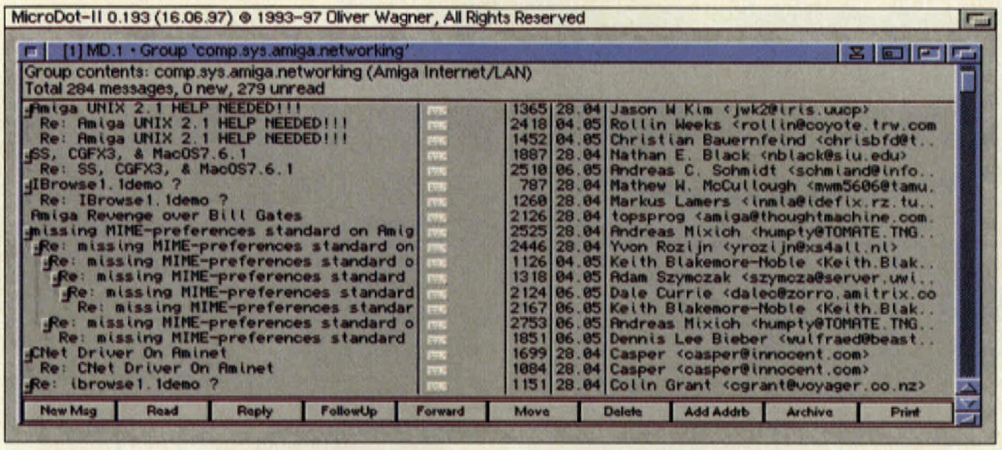
Had this article been written a couple of years ago, when accessing the Internet on your Amiga was a case of using *AmigaNOS* or a similarly primitive system and when many of today's big Net players had yet to even think about getting themselves a homepage, I'd have probably included a lengthy section on Netiquette. These days, with the world and his wife seemingly having Net access, Netiquette has been rather brushed aside. This isn't necessarily a bad thing, because certain aspects of Netiquette were very elitist, anti-newcomer concepts. That said, there are some elements of the old code which remain relevant, and many of them are especially relevant for news newbies.

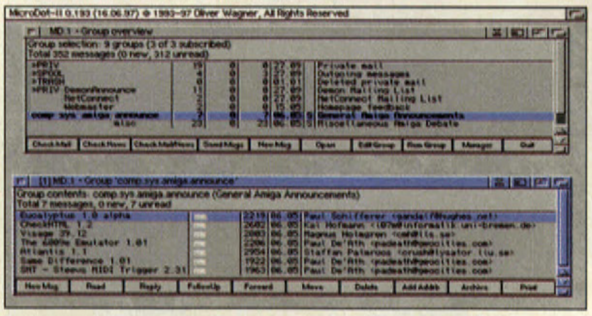
As with IRC, typing in capitals is considered impolite; it's shouting in a virtual sense. "Flaming" (writing insulting messages to others or being unduly harsh or critical of their opinions) is similarly frowned upon and may result in a "Flame War" whereby the users of a newsgroup end up taking sides in an increasingly fierce slanging match. If you start Flame Wars, you won't earn yourself many friends.

Two more points concern bandwidth use. Firstly, don't add excessively lengthy signatures to your postings, because all the users of a group will see increased downloading times as a consequence; and when replying to an earlier message, try to avoid simply duplicating the entire message before adding your thoughts. Only include a couple of relevant sentences from the original message, because there's nothing more annoying than waiting for loads of huge messages to be downloaded only to find that they're all simply verbatim copies of earlier postings with "I agree" and a colossal signature file appended.

Secondly, don't post the same message to a whole host of newsgroups, especially if they are only vaguely relevant to the topic you're discussing.

Some folks will tell you that it's important to read all of the postings to a newsgroup for up to a fortnight before making a posting of your own. This really isn't necessary, but you certainly ought to check the relevant FAQ (Frequently Asked Questions) file before posting. This should let you avoid popping a question that group regulars have to answer several times a day. FAQs are often posted periodically to a newsgroup for the benefits of newcomers, and they may also be available via the Web.





Unfortunately, c.s.a.announce is no longer the humming hotbed of posting activity that it was once.

If you use Microdot as your e-mail client then you'll already be familiar with threaded display systems, which are an absolute essential if you want to follow lengthy discussions.

DECISIONS, DECISIONS

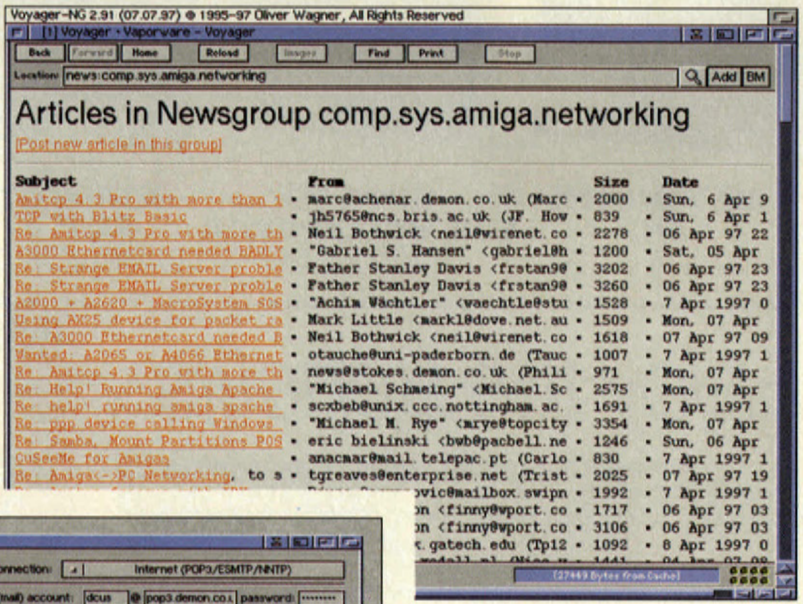
Unless you happen to know the name of the newsgroup you want to take a look at, you'll need to download a list of available groups from your ISP. To do this with *Microdot*, open the Group Manager window. Savour the speed with which it opens, since it'll never open as fast again as it did this first time. This is because the list of newsgroups it'll contain from now on may contain as many as 20,000 different entries, and the downside of using a *MUI*-based program on all but the most powerful of Amiga systems is that windows containing such massive lists can take an age to open.

Once you've initially downloaded this list (which may take some time!), you can choose the groups to which you will subscribe. If you're reading your news in online mode, the term subscription doesn't really mean a great deal, but when you're in off-line mode, you will automatically download all the messages from your subscribed newsgroups – so make sure you don't go over the top and subscribe to too many.

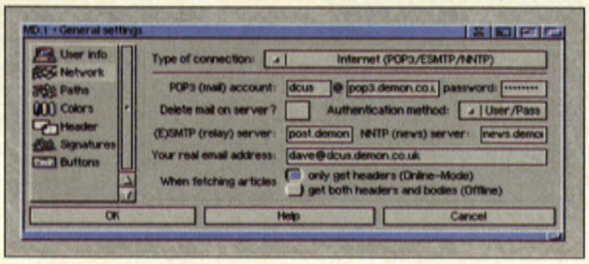
There are a whole range of Amiga-related groups, many of which have the prefix comp.sys.amiga (commonly abbreviated c.s.a). For example, you might want to subscribe to comp.sys.amiga.networking and comp.sys.amiga.misc.

Writing a posting using *Microdot* is very much like composing an email.

With any luck, if you check the newsgroup again after a day or two you should find that your questions or comments have been responded to.



Vaporware's Voyager Web browser can also let you dip into newsgroups if you don't want to go to the trouble of obtaining a dedicated news client.



It's easy to switch between on-line and off-line newsreading modes whilst Microdot is running.

CONTACT POINT

If you have any questions, comments or suggestions then you can email me at:
dave@dcus.demon.co.uk

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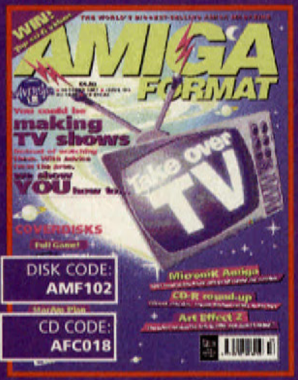
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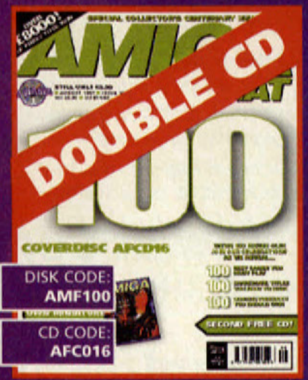
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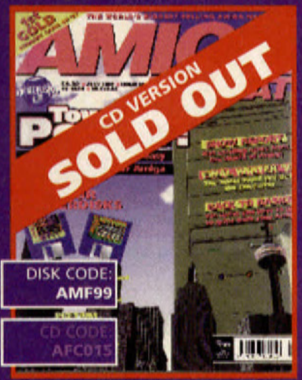
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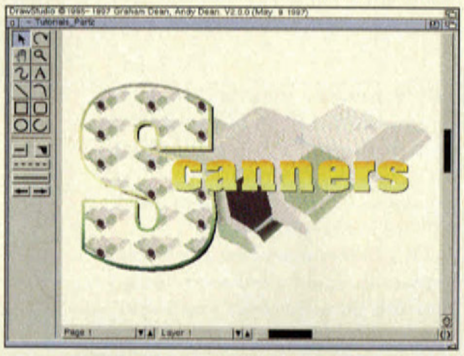
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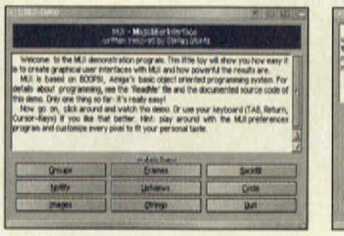
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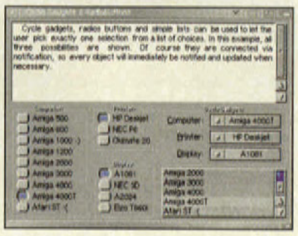


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84 MUI

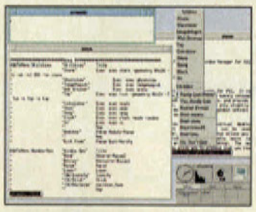
Dr. Karl Bellve tackles the tricky subject of complex MUI programming in the third part of our tutorial.



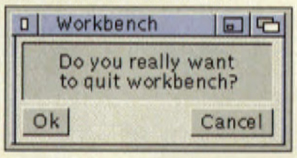


Complicated programming using the Magic User Interface made easy. Learn all about groups and notifys.

86 NETBSD



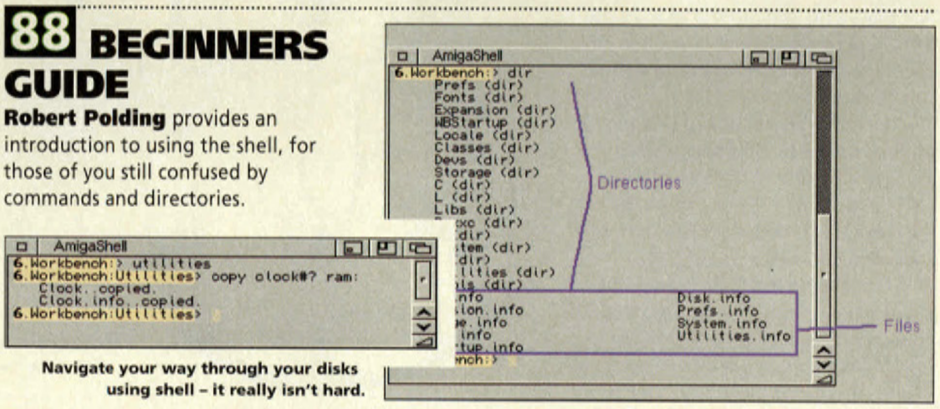
Change your working environment with NetBSD. **Chris Livermore** is the man who reveals all.



You could quit workbench, or just give it a complete facelift.

88 BEGINNERS GUIDE

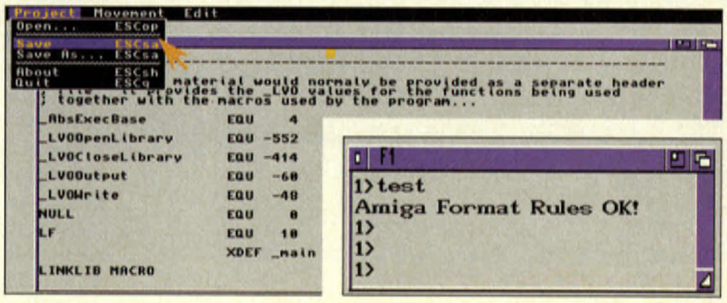
Robert Polding provides an introduction to using the shell, for those of you still confused by commands and directories.



Navigate your way through your disks using shell – it really isn't hard.

90 ASSEMBLY

Paul Overaa presents a special beginners guide to programming in Assembly languages.



It's fast and surprisingly easy to program the Amiga in Assembly Language.

Just because it's Christmas doesn't mean you get out of all your lessons. Pay attention this month and you'll soon be able to create great bitmap fills in Drawstudio, program complex self-notifying interfaces to your MUI programs, take advantage of some of the great features of NetBSD, use the shell quickly and easily, not to mention being able to write programs in the fastest computer language possible. It's all happening here.

Next year we will be introducing a few more tutorials, so if you have any suggestions for a new series, or just useful one-offs, now is the time to tell us. And remember, you can email us too (see below). Right, now I'm off to show Colin something useful he can do with his crayons...

Nick Veitch

SEND IT IN!

WE NEED YOUR INPUT.

Is there something that you would like to see covered in one of the current tutorial series? Why not send your suggestion to us at the magazine. Here are some things you might like to think about:

AREXX

Commodore's excellent decision to include ARexx with Workbench was only matched by their stupidity in not documenting it properly. If you are having trouble why not write to us with a description of what you are trying to do.

PAINT PACKAGES

Unsure of how to get a particular effect? Do you think there must be an easier way? Our experts could help.

DRAWSTUDIO

Is there something you desperately want to be able to draw? Drop us a line! Contact us at:

AF Creative • 30 Monmouth Street
Bath • Somerset BA1 2BW
Or email: amformat@futurenet.co.uk
putting "Creative" in the subject line.

DrawStudio

Feeling lost with older graphics programs? Larry Hickmott reckons you need some bitmaps, courtesy of *Drawstudio*.

Casting my mind back to the bad old days when I first started using another Amiga drawing package called *ProDraw*, I can remember lamenting the poor use of bitmaps in that program.

It's all very well being able to create simple structured illustrations using basic fills (as in *ProDraw*), but if you want to be really creative on the Amiga, then there is only one program to use, and that's *DrawStudio*.

With it, you can mix bitmap objects with structured elements, and these images can also be exported for use in any Amiga application that supports IFF-ILBMs.

Over the course of the past twelve months, I have been using *DrawStudio* quite extensively and I've found it to be an extremely impressive and versatile art package.

In this month's chapter I want to show you how you can use bitmap fills in *DrawStudio 2* and start by explaining a little behind the concepts.

The first point to remember is that any structured object, including text, can be filled with a bitmap in two ways.

First, the line weight around objects can have a fill and, on top of that, the fill inside of that line weight can have a different fill. In both cases, these fills can be bitmaps.

Secondly, these bitmap fills can be applied in two further ways. One is to fill the whole of the object with the chosen bitmap or if you prefer, the bitmap can be tiled at a resolution of your own choosing.

That has covered the basics, but there is a lot more to using bitmaps. For example, the bitmap used to fill an object can be one created in *DrawStudio* or imported from disk. You can also paste a bitmap onto your page directly from the clipboard.

As *DrawStudio* supports the placing of many types of bitmap formats (IFF-ILBM, JPEG, TIFF, BMP, GIF, PCX) you don't have to worry about having to convert them to an Amiga format first.

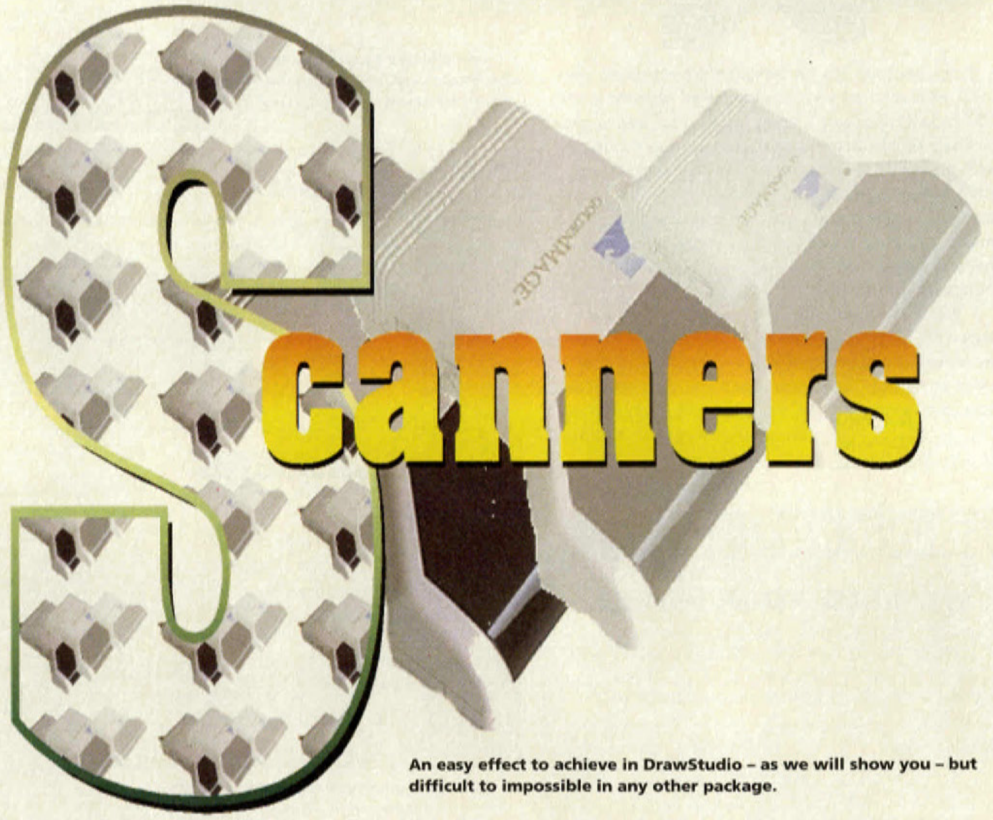
There's more. Bitmaps placed on the page in *DrawStudio* can be rotated, tiled, grouped and sized, and from that a new bitmap can be created. Objects filled with bitmaps can themselves be converted to a new bitmap and used again within new objects. Finally, bitmaps can either be placed on the page on their own or used to fill a structured object.

Unlike other programs such as *ProDraw* and *ProVector*, which already cater for simplistic line drawings, there is no barrier in *DrawStudio* to prevent you from using bitmaps with structured elements. Both can be seamlessly interwoven so that your creativity can be let loose and not stifled by certain limitations of the application itself.

Take a look at the tutorials on these pages and then give some serious thought on how you could make more use of *DrawStudio* and bitmaps in your own work.

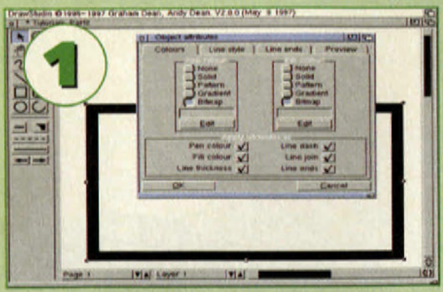
"If you want to be really creative on the Amiga, then there is only one program to use and that's Drawstudio"

Contents

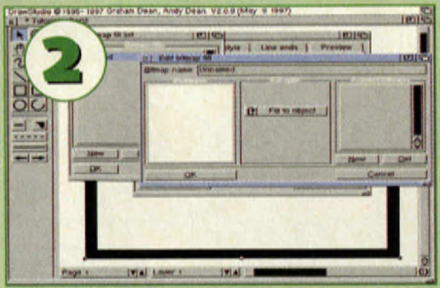


An easy effect to achieve in DrawStudio – as we will show you – but difficult to impossible in any other package.

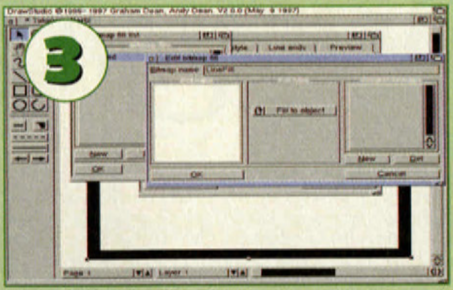
FILLING A STRUCTURED OBJECT WITH A BITMAP



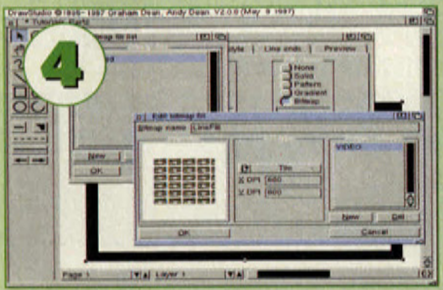
This is a simple example of the different ways to fill an object with a bitmap. To start off, create a simple shape with a thick line weight and then with the object still selected, choose Object/Attributes. Click on the buttons in each column next to the label, Bitmap.



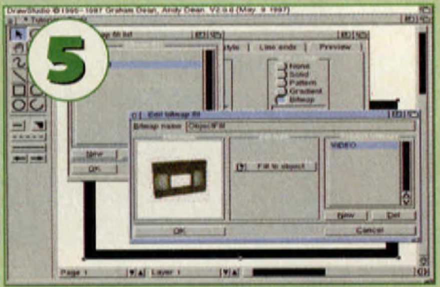
Under each column is a button called Edit. Click on the one in the "Pen Colour" column and a new list view comes up. This contains what I like to call bitmap "style sheets". It's empty at the moment because we haven't created anything. Click on New and then with the Unnamed style sheet selected, click on Edit. This brings up the "Edit Bitmap Fill" requester.



At the top of the requestor is a text gadget with the text "Unnamed" in it. Change this so your bitmap style sheet has a name like "LineFill". You can have as many bitmap style sheets using the same bitmap as you like. This is useful when you want to make use of the one bitmap but at different resolutions when tiling.



Click on New and load a bitmap. The one I have used is on the *DrawStudio* CD and is called Video.jpg. Change the "Fill Type" to Tile and change the resolution to 600 dpi in X and Y. Click OK and then OK again in the Bitmap Fill list.

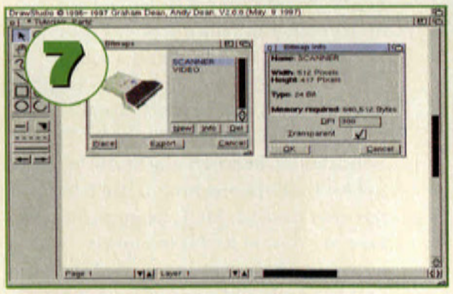


You have now been returned to the Object/Attributes requester. Click on the Edit button in the "Fill Colour" column and again, you will see the Bitmap Fill list. Click on New and Edit and this time give the bitmap style sheet the name ObjectFill. Click on the one bitmap in the list and leave "Object Type" to "Object Fill". Click OK and OK again. To apply this bitmap fill to the object on the page, click OK on the Object/Attributes requester.

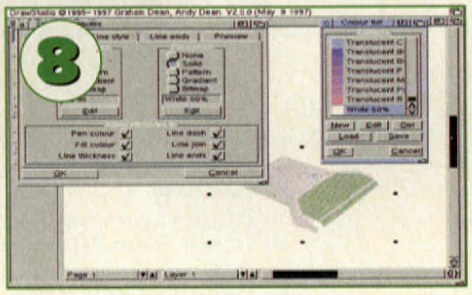


This is the end result. The one bitmap used in two different ways (fill and tile) and in two places on the same image (line weight and fill). The important point about this tutorial is that you understand that the items in the Bitmap Fill list are bitmap style sheets and can be used with the same bitmap while the same style sheet can be applied to numerous objects.

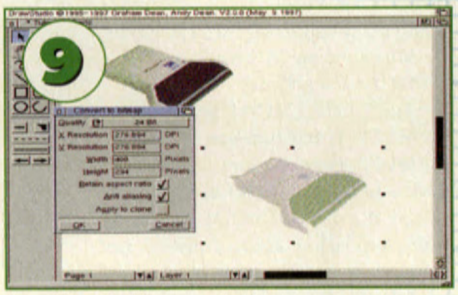
NOW FOR SOMETHING DIFFERENT



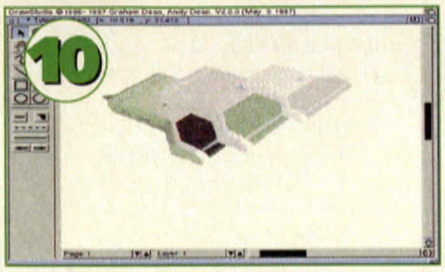
This is a more complicated tutorial and because of space restrictions, I am going to assume you have some basic knowledge of the program. Make sure you have an image ready with a background that is a true white (255, 255, 255). Now choose View/Bitmaps, click on New and choose the image. Once loaded, click on the Info button and click on the Transparent check box so it's ticked. Click OK. Now click on the Place button and paste the image onto your page.



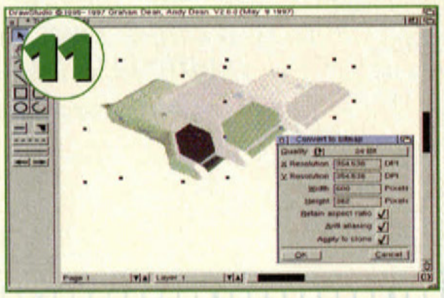
Clone the image (Right Amiga-T), move the clone to a different place on the page and then draw a box over this cloned picture. This box should be given a 50 per cent white fill (50 per cent Opacity in other words) and no line weight. It will look something like this.



Now select the 50 per cent white cover and the image (the clone) underneath it and group (Right Amiga-G) them. Choose Object/Convert to Bitmap. Look at the attributes in the screen grab and set yours accordingly. What you are doing here is taking an external image, mixing it with a *DrawStudio* object and then creating a new object altogether. Please note that if the Clone check box is not ticked, *DrawStudio* will delete the original, leaving only the bitmap being created, on the page.



Take the new bitmap and place it over the top of the original and if you like, repeat step 3 but with a different opacity (such as 75 per cent) for the transparent box. Then group all the bitmaps (let's call this Group1) and again choose from the Object menu Convert To Bitmap. When the new bitmap is created from Group1, you can delete it from the page because it's still being held in memory by *DrawStudio* which is all we need for it to be used as a bitmap fill. Just make sure the bitmap you delete is the bitmap clone of Group1.



Add some text (even a single letter) to the image and convert that text to a Bezier Curve. Give the text a line weight and a bitmap fill, choosing the bitmap created from Group1 in the latter part of step 4. The text can now be given a shadow or expanded upon. As you can see from the screen grab, you can take a single bitmap and create something very different from it with just a little imagination.

Magic User Interface

Dr. Karl Bellve guides you through more complicated MUI programming.

AFCD21:-In_the_Mag-/MUI

ON THIS MONTH'S CD

Last month's tutorial only scratched the surface of using MUI for programming. One of the most important features of MUI is its notification class. This allows communication between different objects, independent of any program event loop. For example, you can have a slider object communicate with a gauge object to update its display, or you could have a string object transmit its contents to a text object, as shown in last month's tutorial (MUI_Example1).

Each MUI object has a set of attributes and methods. When an attribute is changed, it can notify another MUI object and change its attributes. MUI object attributes can change in two ways. A user can change a gadget, or the programmer can directly change an attribute. This sets a notification process in motion, if a notification has been set up for that attribute. Here is an example of a notification as shown in MUI_Example1:

```
DoMethod(App.string, MUIM_Notify,
    MUIA_String_Acknowledge,
    MUIV_EveryTime,
    App.label1,3,MUIM_Set,
    MUIA_Text_Contents,
    MUIV_TriggerValue).
```

Here is how it breaks down. App.string1 will use the method MUIM_Notify to notify App.label1 that its contents are changed. You might say that App.string1 doesn't have a method called MUIM_Notify, which is TRUE, but remember, all classes inherit the methods and attributes of their parent classes. MUIM_Notify is a method of the notify class.

MUIA_String_Acknowledge is an attribute of the string class. Every time this attribute is changed, a notification will be triggered. The user can change the contents of the string gadget, App.string1, and trigger it, or the programmer can change it with a set (App.string1, MUIA_String_ Contents,"Some String"). Now if a notification is triggered, the object App.label1 is the target of the notification. The number 3 in the above line defines the number of parameters being passed to the target, App.label1. MUIM_Set will then set the contents of App.label1 with the contents of App.string1. MUIV_Trigger Value lets the notification class pass the contents of App.string1 to App.label1.

Another example of notification in MUI_Example1 was as follows:

```
DoMethod(App.window,MUIM_Notify,
    MUIA_Window_CloseRequest,
    TRUE,App.app, 2,
    MUIM_Application_ReturnID,
    MUIV_Application_Return
    ID_Quit)
```

Every MUI program should have the above notification connected to the main window. The purpose is to quit the program after the user closes the window. When the user hits the close window gadget in the window's border, the method MUIM_Application_ ReturnID is initiated. This is a very powerful method, but it can lead to non-object oriented programming as this method passes a value to the program's event loop. In this case, it passes the value MUIV_Application_ReturnID_Quit, defined as -1 in mui.h. Potentially, any object can be made to send a value (defined by you) to a program's event loop, where it can be acted upon.

It's preferable to use direct notifications between objects or to use hooks. I will discuss how to use hooks in the next tutorial. MUI_Example3 shows how you can tie multiple objects together. The program's event loop has nothing to do with the communication of the objects in its GUI. Study the source, MUI_Example3.c, to see how the objects communicate.

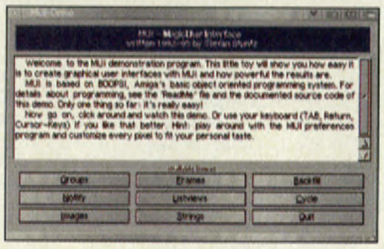
The program only displays some MUI objects and sets up notification between them. The first notification you see is to tie the close window gadget to return MUIV_Application _ReturnID_Quit. The second changes the contents of the label object when the user changes the contents of the string object:

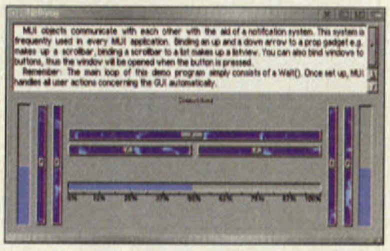
```
DoMethod(App.string1,MUIM_Notify,
    MUIA_String_Acknowledge,
    MUIV_EveryTime,App.label1,3,
    MUIM_Set,MUIA_Text_Contents,
    MUIV_TriggerValue).
```

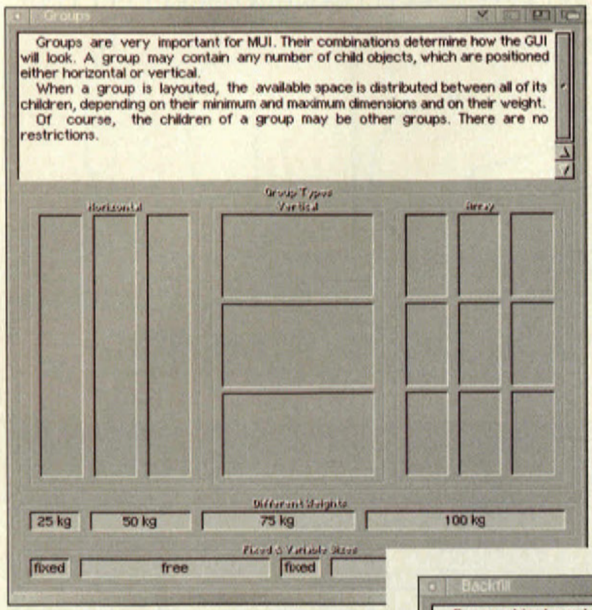
This is the same notification seen in MUI_Example1, so I'll just explain MUIA_String_Acknowledge. Normally

> "The numeric class doesn't contain any GUI elements but it offers basic attributes and methods to handle integers..."

Contents







Gadgets are generally placed in groups, or as shown here, in nested groups.

you'd monitor MUIA_String_Contents. If you did, you'd initiate a notification every time a key was pressed inside the string gadget, and mostly you do not want this. An example is in AmIRC server's window. When you type into a string gadget in that program, the server list is immediately updated before the user hits return. However, in most situations, you'd like to wait until the user hits return. The attribute that is changed is MUIA_String_Acknowledge.

The next notification links the numeric value of a slider to a string gadget. DoMethod(App.slider1,
MUIM_Notify,
MUIA_Numeric_Value,
MUIV_EveryTime, App.string1, 4,
MUIM_SetAsString,
MUIA_String_Contents, "%ld",
MUIV_TriggerValue).

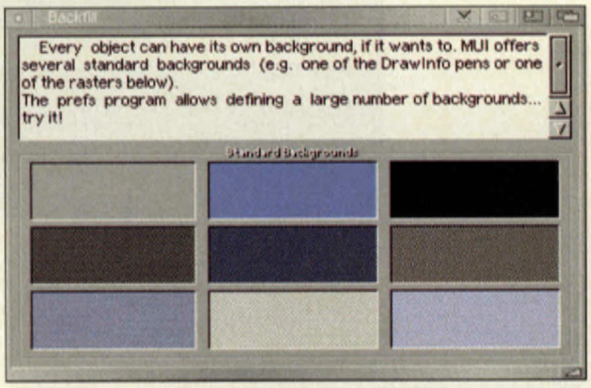
When the slider object changes value, the attribute MUIA_Numeric _Value is changed. This triggers the notification class to perform the method MUIM_SetAsString. This allows formatting of a string. If you're formatting a number, like the above notification, you need to use %ld and not %d since it is a LONG value and not an int. A side note, all values used in MUI should either be LONG or ULONG. Never use BOOL even when it asks you. Instead store TRUE or FALSE in a LONG variable.

Back to the notification story. The above notification event can also be written as the following:

DoMethod(App.slider1, MUIM_Notify,
MUIA_Numeric_Value,
MUIV_EveryTime, App.string1, 4,
MUIM_SetAsString,
MUIA_String_Contents, "The slider says %ld",
MUIV_TriggerValue);

As you can see, I added text before the trigger value.

MUIM_SetAsString can take many parameters. The label object in MUI_Example3 is also the recipient of a notification event which looks very similar to the string objects.



Any background you want. MUI provides these as standard but you can draw your own!

DoMethod(App.slider1, MUIM_Notify,
MUIA_Numeric_Value,
MUIV_EveryTime, App.label1, 4,
MUIM_SetAsString,
MUIA_Text_Contents, "%ld",
MUIV_TriggerValue)

As you can see, very similar except the attribute MUIA_Text_Contents is changed for App.label1, instead of MUIA_String_Contents for a string object. The other basic notification in MUI_Example3 connects the slider objects to the gauge object.

DoMethod(App.slider1, MUIM_Notify,
MUIA_Numeric_Value,
MUIV_EveryTime, App.gauge1, 3,
MUIM_Set, MUIA_Numeric_Value,
MUIV_TriggerValue);

Notification is important for easy use of many types of requestor.

This is a basic notification that sets MUIA_Numeric_Value from one object to a second object. Both objects use MUIA_Numer_Value instead of their own unique attribute as it makes more sense to make sliders and gauges a sub-class of a numeric class. The numeric class doesn't contain any GUI elements but it offers basic attributes and methods to handle integers, which is in common between the slider object and the gauge object.

One more notification exists in MUI_Example3. When the button is pressed and released, all the other objects are set back to 0. It's important to note that you listen to when the attribute MUIA_Pressed is no longer TRUE but FALSE. This is because you only want to initiate notification when the user has released the mouse button over an object and not when the user has pressed the mouse button. The user may move the mouse off the object then release the mouse button in order to cancel the operation.

The MUI developer's archive contains plenty of examples of notification. Look at the source for MUI-Demo for extra enlightenment. The AutodocMUI_Notify.doc contains plenty of useful information. Here are some of the more useful items in it.

MUIA_NoNotify can be used when you do not want to trigger a notification when you change an attribute. In mui.h, a shortcut is defined for this:#define nnset(obj,attr,value)

SetAttrs(obj,MUIA_NoNotify,TRUE, attr,value,TAG_DONE). Normally you would do set(obj,attr,value) to set an attribute but this will trigger a notification, or you could do nnset(obj,attr,value). This will not trigger a notification since it uses MUIA_NoNotify, as shown in the #define above. MUIM_CallHook is a very useful notification method. You could attach an Amiga callback hook to any MUI object.

MUIM_KillNotify eliminates a previously set notification on an attribute for an object. Another useful method is MUIM_Multiset. This method enables the setting of multiple objects with the same attribute.

In MUI_Example3, the following line replaces 3 lines of code:

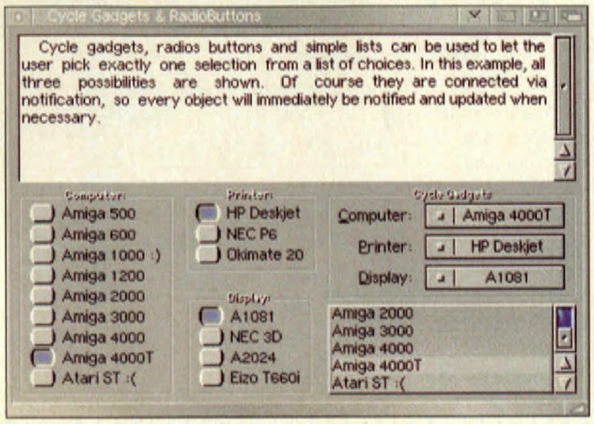
DoMethod(App.button1, MUIM_Notify,
MUIA_Pressed, FALSE, App.gauge1,
7, MUIM_MultiSet,
MUIA_Numeric_Value,
0, App.slider1, App.slider2,
App.gauge1, NULL);

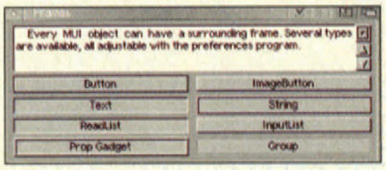
With just one button, App.button1, three objects are set to a new numeric value. You could also pass a MUIV_TriggerValue to them, instead of 0, simplifying your programs code.

There is another value called MUIV_NotTriggerValue that sets the target object with the opposite value. TRUE becomes FALSE and FALSE becomes TRUE. I suggest reading MUI_Example3, since it's a simple example of notification. I commented the source code well for this.

You may then try and read some of the source for the demo programs included in MUI. Read the autodocs thoroughly. I still find plenty of useful methods and attributes hidden in them.

Stay tuned for the next tutorial when I discuss hooks and their use.





Borders and frames can also be specified with the MUI prefs program.

NetBSD

ON THIS MONTH'S CD

AFCD21:-In_the_Mag-/NetBSD

Chris Livermore turns his desktop a peach puff colour with the complete UNIX operating system.

Looks are everything. Whoever said beauty was on the inside was lying, at least when it comes to computers. Most good operating systems let their users make cosmetic adjustments, such as changing the background picture. Unix goes one better as it lets you change the entire Graphical User Interface (GUI) in one go. If you cast your mind back to the first tutorial you will remember that the GUI is provided by an application known as a Window Manager.

The Window Manager is started by the X server, the piece of software that provides a mechanism for running Graphical Programs. By changing your Window Manager you can change the entire appearance of your machine.

If you don't use the Windowing environment very often, or are running low on disk space, then you may not wish to install another Window Manager. If this is the case don't worry because it is very easy to configure *fvwm* (one of the window managers supplied with the X11 distribution) to provide a more pleasant working environment.

The first step involved with the customisation of any of the Window Managers is to create your own .xinitrc file. Every time you start *X* it checks in your home directory for a file called .xinitrc. If this file is present it will use it, otherwise it will read the default file, /usr/local/X11R6.1/lib/X11/xinit.

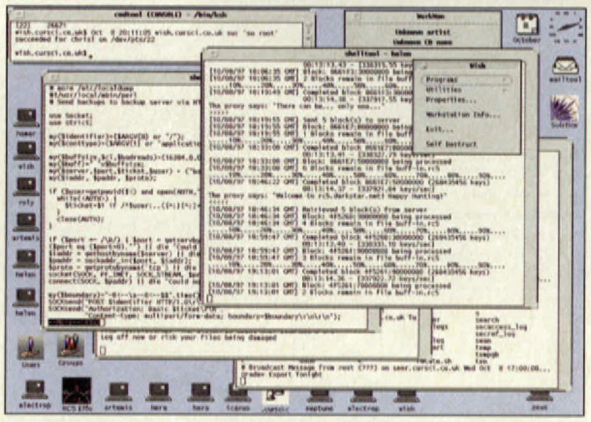
On most Unix machines the system administrators wouldn't let you anywhere near the default file, leaving no option but to create your own. As you are both user and system administrator you can change the default file if you wish. Any changes you do make will affect every user on the system and not just you. It is for this reason that most people prefer to have their own personal configuration files in their home directory.



IT'S CHRISTMAS!

As it is Xmas we've included a festive application for you. X-Snow is a small hack to make it snow on your desktop. The snow settles on windows and icons and if you're lucky Father Christmas can be seen riding his sleigh in the background.

Contents



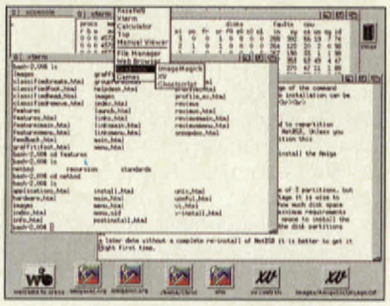
You can also define multiple screens which slide down over each other just like the real thing.

The .xinitrc file tells the X Server which applications and most importantly which Window Manager you wish to run. A simple .xinitrc file would look something like listing 1.

> By changing your Window Manager you can change the entire appearance of your machine

My preference is to keep things simple, so my .xinitrc file opens a single xterm window and an xconsole. The size and position of the windows are specified by the -geometry attributes. The file also contains entries for multiple window managers. Changing Window Manager is simply a matter of uncommenting a different line.

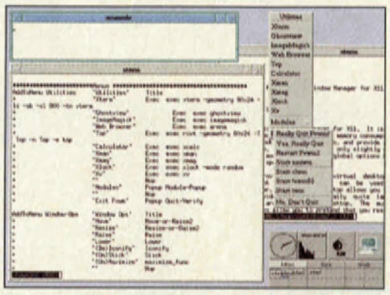
The .xinitrc file only controls which applications are started when the X-Server initialises, in order to change the appearance of the window manager you must change it's configuration file.



***amiwm* gives a Workbench type environment. It even lets you add your own applications.**

As with the xserver initialisation file the window manager will first check in your home directory for a configuration file. If it does not find an appropriate file there it will read the default file. Even if you are the only user of your NetBSD installation it is advisable to create a configuration file in your home directory if only for the simple reason that you will be able to find it easily should you wish to edit it later.

fvwm2 expects to find a .fvwm2rc in your home directory. The simplest way to achieve this is to copy the default configuration file:

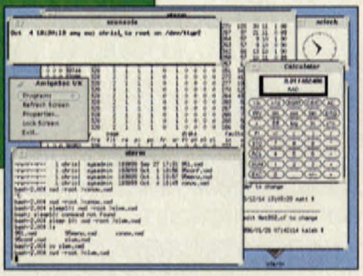


At last we've got rid of that horrible backdrop!

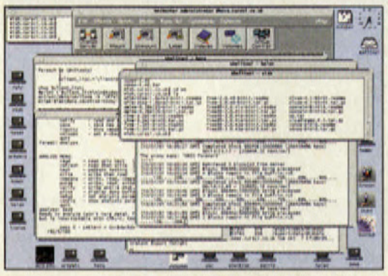
Listing 1

```
#!/bin/sh
    #
    # Chris' .xinitrc file
    # Open an Xterm and a console
on startup.

xconsole -geometry 400x70+6+20 &
    xterm -geometry 80x24+6+108 &
    #(sleep 4; exec xterm -geometry
40x20-5+250 -ls -sb -tn xterm) &
    #(sleep 5; exec xclock -geometry
80x80-0+0 ) &
    #(sleep 6; exec xload -geometry
120x90-5-120 ) &
    #(sleep 7; exec xeyes -geometry
70x70-450+0 ) &
    #(sleep 8; exec xman -geometry
120x60-65+0 ) &
# Window Manager, uncomment
only 1 !
    #exec twm
    #exec fvwm2
    exec amiwm
    #exec afterstep
    #exec olwm
    #exec fvwm95
    #exec olvwm
```



In the red corner (right) a Freeware version of *olwm* running under NetBSD...



...in the blue corner (left) OpenWin, £600 worth of software running on a Sun UltraSparc.

cp/usr/local/X11R6.1/lib/X11/fvwm2rc .fvwm2rc

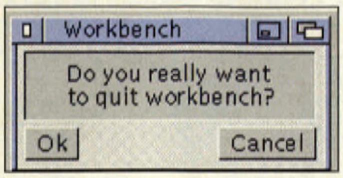
You can then edit this file to suit your personal preferences. The first thing I did was to change the tiled *fvwm* backdrop to a more subtle blue colour.

NetBSD has a long list of colour names stored in the file /usr/local/X11R6.1/lib/X11/rgb.txt including colours like light sky blue, light salmon and peach puff.

For *fvwm* a utility such as *xsetroot* can be used to change the background colour for the default grey.

The second step in configuring the Window Manager to suit your needs is to edit the menu items. *fvwm* has two main menus. A Utilities menu that appears over the desktop and a Window Control menu that allows you to maximise and minimise windows. *fvwm* allows you to define the contents of both of these menus and even which mouse button you have to press for them to appear.

I've edited the Utilities menu to include some of the applications installed as part of last month's tutorial. I've also added the new Window Managers included on this months CD to the restart menu, so you can switch Window Manager at the click of a mouse.



No! Don't do it...

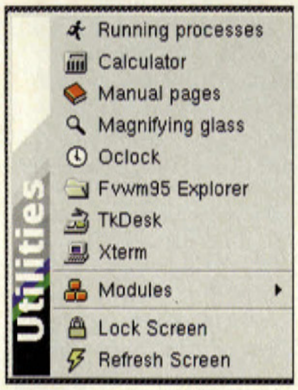
To complete the transformation of our desktop we'll change the appearance of the button bar in the bottom right hand corner. The clock and CPU meter can stay but the mail box flag is redundant on a machine not connected to a network, so we'll replace this with a button to launch an xterm window.

The icons that *fvwm* and all of the Window Managers use can be found in /usr/local/X11R6.1/include/X11/pixmaps. Take care to choose an icon that is the right size and doesn't contain too many colours for your Window Manager. I've also renamed my three virtual screens to misc, dev and web.

Also included on this month's CD are four new Window Managers. They are all pre-compiled and come with installation and de-installation scripts. Best of all they can co-exist on the same NetBSD installation, although you can only run one at a time.

Olwm is the Openlook Window Manager produced by SUN Microsystems and provided with their "Solaris" Operating System. As Window Managers go it takes a very simple approach. It doesn't feature start menus or button bars, just a fully configurable menu system. *Olvwm* is identical except it provides virtual screens and a pager to select them. *olwm* is the simplest of the Window Managers to configure as **listing 2** shows.

Amiwm is the Amiga Window Manager. Not surprisingly it looks very much like an Amiga. It offers more configuration than *olwm*, multiple screens can be defined which pull down in front of each other just like the Amiga. Add-on modules allow various keyboard shortcuts to be defined and a background image can be placed on any virtual screen. *Amiwm*'s main disadvantage is that it doesn't offer any more functionality than a standard Workbench, and unfortunately *MCX* and *Magic Menu* aren't available for NetBSD (yet!).



Urgh, get that away from my Amiga!

Amiwm uses an application called *xloadimage* to set the background image for each screen. The source code for this has been included on this month's CD so you'll have to compile it yourself first. If you have never tried this before, don't worry. It's very simple and will be good practice for the coming tutorials!

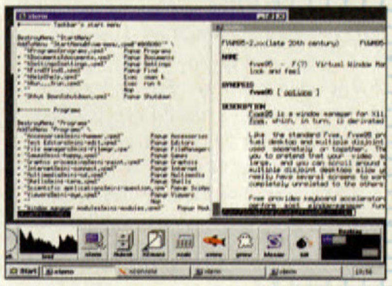


Impress your PC-owning friends!

Listing 2

```
#.openwin-menu file
    #define a pop-up menu with an
applications sub-menu

"AmigaSoc UK" TITLE
    "Programs" MENU
        "Xterm" xterm
        "File Manager" xfm
        SEPARATOR
        "Web Browser" arena
        "Text Editor" pico
        "XV" xv
        SEPARATOR
        "Clock" xclock
        "Calculator" xcalc
        "Performance Meter" xcpu
    "Programs" END PIN
    "Refresh Screen" REFRESH
    "Properties..." PROPERTIES
    "Lock Screen" "xlock -mode
random"
    "Exit..." EXIT
```



Fvwm95, like all good window managers, allows you to define your own menu items.

For those of you with graphics cards there is *AfterStep*, a Next-style Window Manager. *Afterstep* features user-definable menus and button bars, and an application loader called "Wharf" with the ability to "swallow" running applications. It also allows you to select any of the screen savers as a fully animated background.

Finally we come to *Fvwm95*, a *Windows95*-style Window Manager. *Fvwm95* has taken the good bits from *Windows95* (the user interface) and thrown away the bad bits (the rest of the operating system).

It is probably the most configurable Window Manager available, offering a start menu, an applications menu, virtual screens, user definable keyboard shortcuts and two different button bars.

All of this does come at a price – the configuration file is a huge 865 lines long! Fortunately, with only a few changes, the supplied configuration is perfectly useable.

RELEASE DATE

NetBSD 1.3 is currently in Beta release and a final version will be released on December 1. As soon as we get our hands on a copy we'll tell you what new features and hardware it supports, and how you can upgrade.

Beginners Guide

Robert Polding and an introduction to Shell.

Contents

The Shell is the Amiga equivalent to the DOS system that was used on all PCs before Windows. If you are new to computers, it is a system that allows you to organise your files and programs and run/execute them.

The difference between the Shell and Workbench is that rather than using a graphical interface you perform tasks by typing commands. This may seem more complicated but for some things it is far quicker. Firstly, I would recommend you get hold of a package called *KingCON* by David Larsson. This will make using the Shell far easier.

You'll need to load a Shell so go into the System drawer of your Workbench disk and select the 'Shell' icon (by double-clicking on it). Now you will have a prompt ready to take commands. One of the easiest uses of the Shell is to copy, rename and delete files. The biggest advantage is that you can perform actions on large selections of files, for example all files ending with a specific indicator (such as .iff and .gif), or even whole directories (if the command is followed by 'ALL' then even sub-directories). To copy a file you (not surprisingly) use the copy command. Let's try and copy the 'Clock' program from the 'Utilities' drawer of your Workbench disk. Type:

`SYS:Utilities [RETURN]`

This will make that drawer the current directory (so you don't have to type the full path). SYS: simply refers to the disk that you booted from (hopefully Workbench!) Now type:

`dir [RETURN]`

This will produce a list of all the files in the utilities drawer. In this list should be the Clock program. The .info files are the icons that Workbench uses. Now type:

```
copy Clock RAM: [RETURN]
copy Clock.info RAM: [RETURN]
```

This will copy the Clock and its icon to the RAM disk. There is a quicker way to do this, using a short-cut. Open the RAM icon and delete the Clock program then type:

`copy Clock#? RAM: [RETURN]`

Now both files will be copied in one line. The use of the symbols (#?) means the Shell will copy any files beginning with Clock. You could use the same to copy any files with similar names. For example, if you had a directory of pictures and you wanted to copy all the files ending with .iff then you could use the line:

`copy #?.iff [destination]`

Don't try this as there are no pictures on the Workbench disk. Instead, type:

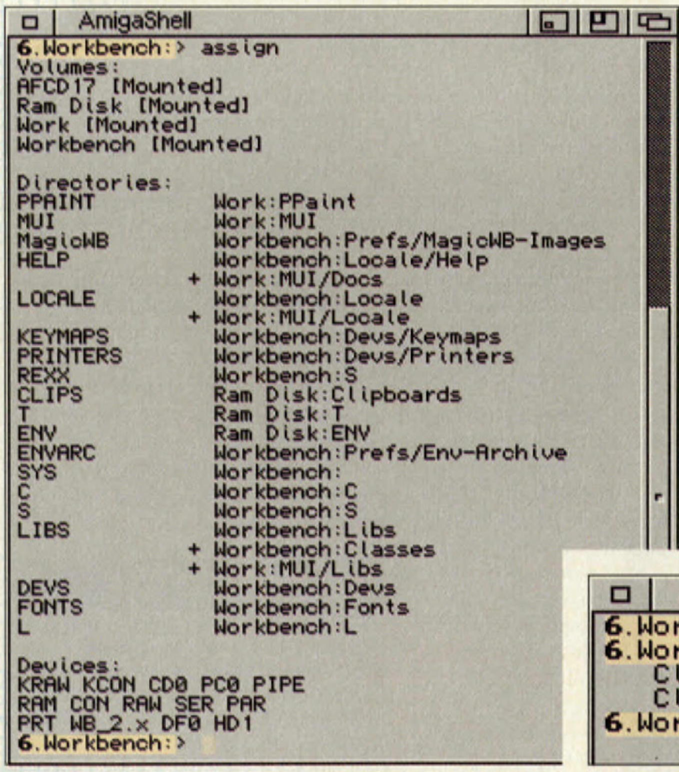
`/ [RETURN]`

This will take you to the Parent Directory. Now type:

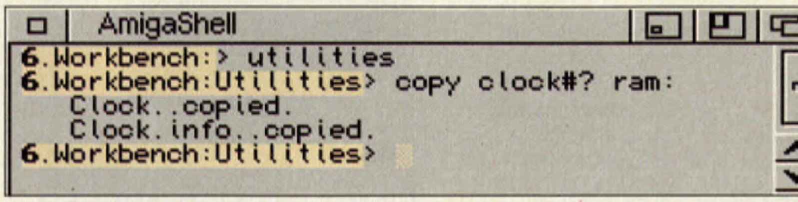
`dir [RETURN]`

A different file list will appear, this time of the Root Directory of your

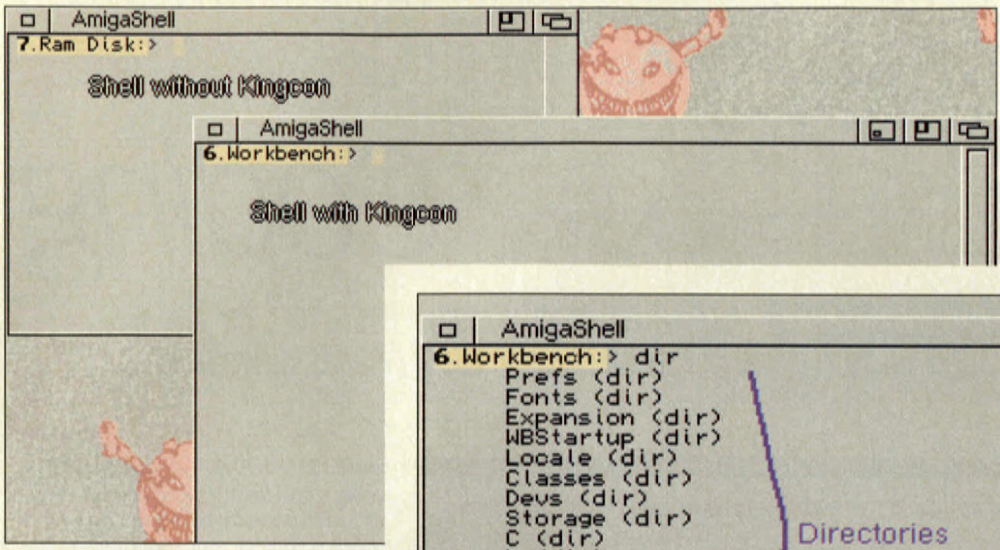
> If you need to regularly do a particular task in the Shell you can write a script and simply use this every time...



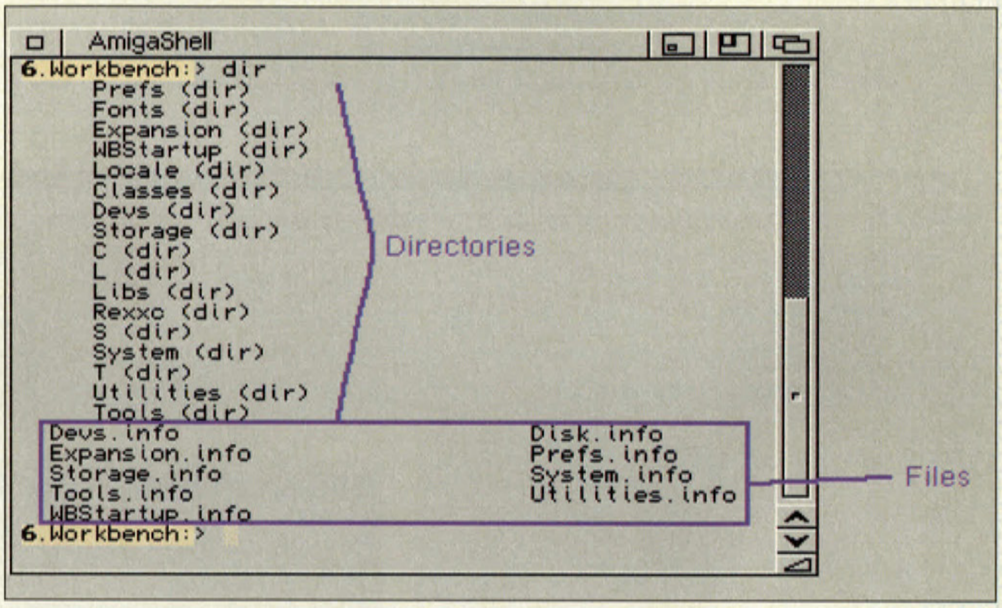
If you have *KingCON* installed, you can get a nice scrolling list of assigns like this.



Here you can see wildcards in operation. Using the #? as part of a filename means that several files can be copied with only one instruction.



A Shell with *KingCON* is far easier to use and a lot more flexible.



You can easily tell the difference between files and directories in the Shell.

Workbench disk. All the files ending with '(dir)' are directories, and by typing their name you can make them the current directory. There are also directories within directories, called sub-directories, and you can access these in the same way. If you wish to get to the Root Directory and the current directory is a sub-directory, simply type ':'. As an example type:

```
prefs/env-archive/sys [RETURN]
dir [RETURN]
```

Then to return to the Root type:

```
: [RETURN]
dir [RETURN]
```

and you will be back in the Root.

Experimentation is the only way to master the Shell, so try copying and accessing files (but *don't* delete files on your Workbench disk unless you know what you are doing!).

SCRIPTS

The Shell also uses scripts, or files containing lists of commands. An example of one of these files would be the 'Startup-Sequence' file in the 'S' directory. This is the file that loads Workbench and sets up your system. To view this, type:

```
more S:Startup-Sequence [RETURN]
```

Press the Space Bar to scroll through it. Looks complicated? Don't worry, as you don't need to change this until you know what you're doing. Now we'll write a simple script that copies that Clock and its icon to the RAM disk while displaying a message. Delete any files you've copied to RAM and type:

```
ed RAM:Script [RETURN]
```

The Editor program will now be launched, enter the following:

```
echo "Copying the Clock
program to RAM" [RETURN]
copy SYS:Utilities/Clock#?
RAM: >NIL: [RETURN]
```

Now press the Escape key followed by 'X' and Return (in order to Save the file and quit).

The 'copy...' line is followed by '>NIL:' so it won't show any output. The 'echo' command simply displays text on the screen. Now type:

```
execute RAM:Script [RETURN]
```

If all has gone to plan the Clock will be copied.

You can also rename files through the Shell. As an example, we will rename the script as 'Clock-copier'. This is done by typing:

```
rename RAM:Script RAM:Clock-
copier
```

If you want to include spaces in file names you must enclose the name and path in quotes. This is not recommended as it means having to do this every time you access the file. As an example type:

```
rename RAM:Clock-copier
"RAM:Clock copier"
```

> **Filenames don't require capitals at all, but it does make organisation easier and your directories better...**

Scripts are important if you need to regularly do a particular task in the Shell. You can write a script and simply use this every time you need to do the particular task – saving time as well as your fingers.

Many directories can also be accessed by using their assigns. Type 'assign' to get a list. As an example, the S directory is assigned as S:, the libs directory as LIBS: etc..

It is also possible through the Shell to format and copy whole disks. Following are examples of how to format and copy a disk in DF0: (the internal drive):

```
Format DRIVE DF0: NAME Empty
[RETURN]
Diskcopy FROM DF0: to DF0:
[RETURN]
```

Filenames don't require capitals at all, but it does make organisation easier and your directories better to read.

KINGCON

As I previously mentioned, there is a program that makes using the Shell a breeze. It is called *KingCON*, and is included every month on the cover CD (or from PD libraries). It adds many functions to the Shell, a particularly useful one being filename completion.

This means you only need to type part of a filename, then pressing the Tab button will make the computer complete the name – very good when long filenames are used. It also makes the window like a Workbench one, with a scroll bar allowing you to go back and look at what you've typed, as well as a shrink-gadget that makes the shell into an icon that can be re-opened.

We have only really touched the surface of the Shell in this tutorial, and you now have a very basic knowledge. The Workbench manual has a list of commands and there are several books available covering the Shell, such as *Mastering Amiga Scripts* and *Total! Amiga – AmigaDOS* both published by BSB (available from various companies advertising in *AF*).

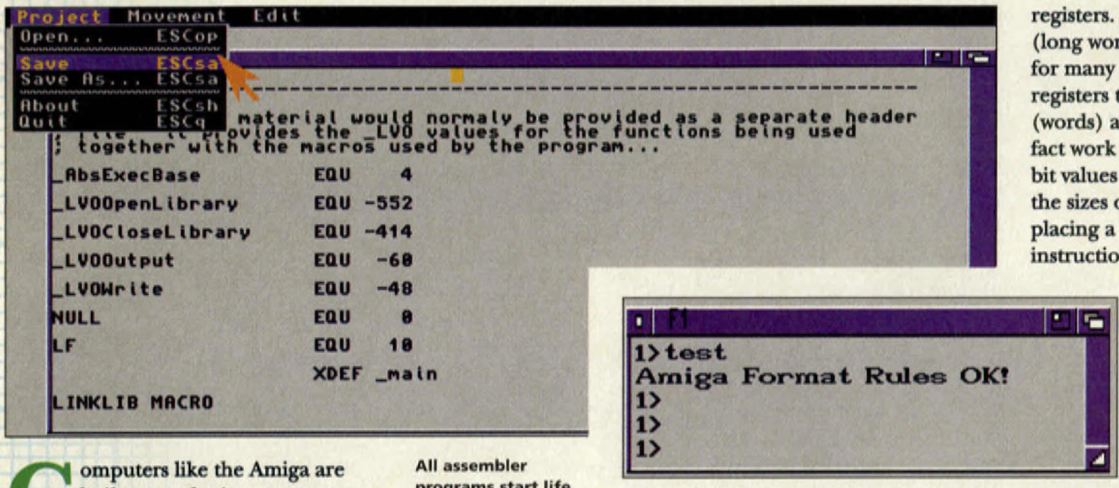
The commands used by the Shell are listed in the C directory of the Workbench disk.

That's all for this month. Next month (in the final part of the series) we will be looking at Expansions – good luck with your Shells!

Beginners Assembler Coding

ON THIS MONTH'S CD AFCD21:-In_the_Mag-/Assembler

Unravel the mysterious art of 680x0 coding with Mr Overaa's assembler beginners special...



All assembler programs start life as simple ASCII text files.

The display produced by the Shell-based example you'll find on next month's disk.

Computers like the Amiga are built around microprocessors. These microprocessors recognise certain binary numbers as representing instructions for performing various tasks. It is sets of these instructions in memory that constitute a 'program' and, given suitable hardware, one way of programming a system in this low-level way is to place appropriate binary numbers directly into memory.

This approach is far from ideal and a better idea is to use statements such as ADD and MOVE to represent the instructions and then automatically translate these statements into their equivalent executable (ie, binary) form. Utilities which do this are known as assemblers because they assemble (ie, create) the machine-runable program from a list of human-readable instructions. The languages themselves have therefore come to be known as assembly languages and their benefits are simple – because they have a one-to-one correspondence with the operations that the processor itself can perform, they allow programs to achieve maximum speed and efficiency.

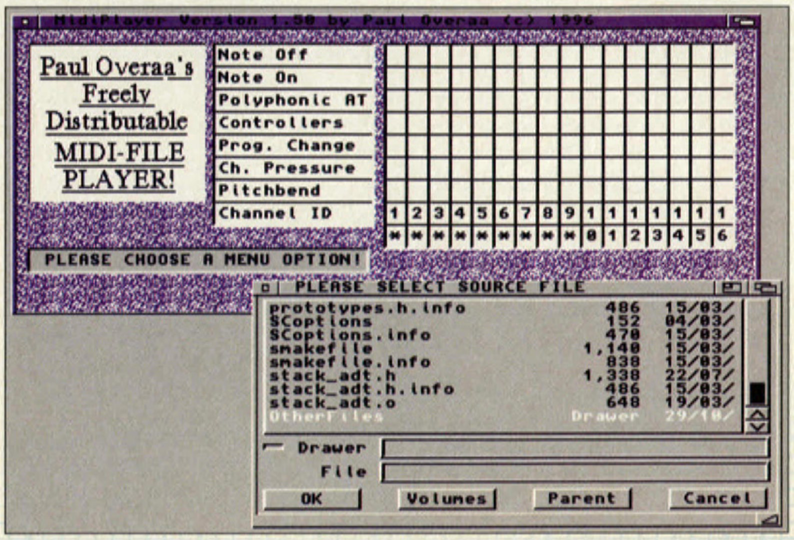
The disadvantage with all assembly languages, however, is that they're harder to learn than languages like Basic. Your Amiga, depending on the type of machine you have, may use any one of a number of processors from the 680x0 family, although luckily all support the same basic types of instructions and have a similar set of registers for storing information. Registers are split into two basic groups – data registers and address registers, with the former being labelled d0, d1, d2... d7 (or D1, D2... and so on) and the latter as a0 (or A0) up to a7.

680x0 registers can hold four byte (32-bit) values and the processor is able to move these items between its internal registers, between a register and a memory location (and vice versa), and from one memory location to another. One of the most distinctive features of the 680x0 series is the flexibility of the registers. Although they can hold 32-bit (long word) values the processor can, for many operations, use the address registers to work with 16-bit values (words) and the data registers can in fact work with either 32-bit, 16-bit or 8-bit values (conventions for identifying the sizes of values used being based on placing a '.b', '.w', or '.l' after the instruction name).

Another 680x0 register is the status register which is actually divided into two 8-bit areas known as the system and user bytes. The user byte is important because it contains bits whose values are set and cleared according to the results of particular instructions. Five flag bits are available, each of which provide single-bit true/false type detection of various processor conditions – the zero (Z) flag, for example, is set high (ie, set to 1) when an operation gives a zero result.

PROGRAM COUNTER

The 680x0 also contains a program counter which is used to determine the address of the next instruction to be executed. Under normal conditions this register is automatically incremented so instructions held in memory are executed in sequence, ie, one after



Once you're past the beginners stage you'll find that the Amiga's run-time libraries provide a lot of graphics help.



Intuition windows, gadtool gadgets, and even the famous Exec messaging system are all easily accessible via the appropriate library calls.

another. But by changing the program counter's contents it's possible to cause the microprocessor to get its next instruction from anywhere in memory and the fact that these jumps can be made conditional on the state of various processor flags means that the processor can make 'intelligent' flow control decisions, based on the data with which it is working. One such instruction, called beq (Branch on EQual to zero), signifies that a branch will only be taken

> *because they have a one-to-one correspondence... they allow programs... maximum speed and efficiency.*

if the zero flag is set. To use this instruction to conditionally branch to a symbolic address called EXIT we'd write:

```
beq EXIT
```

DUCKING AND DIVING

Now for a 680x0 chip to do anything useful it needs to collect data from somewhere, manipulate it and produce results for the outside world. From the processor's viewpoint, part of this 'outside world' are the RAM and ROM memory chips present in your Amiga. Most processor instructions work on a piece of data (called the operand) and this data not only has to be stored somewhere but the processor needs to know where it is stored and how to access it. Many instructions will use some real or implied source address, do something, and then transfer the result to a destination address – the 680x0's has built in 'addressing modes' which enable these source and destination addresses to be specified. For example, the instruction...

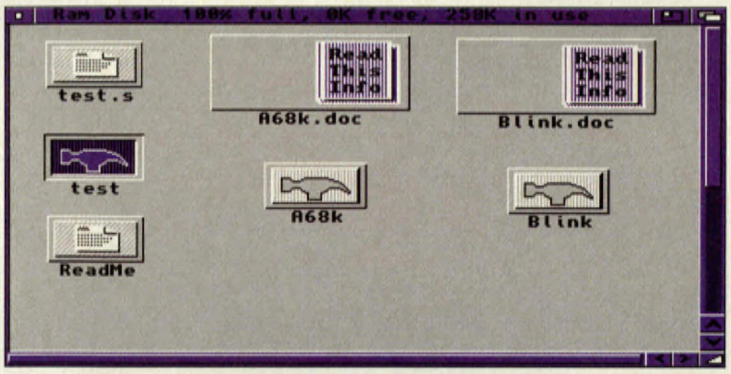
```
move.b d1, (a0)
```

will transfer the contents of the lower eight bits of register d1 to the memory location whose address is held in register a0 (this is known as 'indirect addressing'). More efficient move instructions called moveq ('move quick') are, incidentally, also allowed for certain types of data and....

```
moveq #0, d0
```

for instance provides a very quick way of clearing (ie, setting to zero) the full 32 bits of register d0!

But assemblers can do far more than just generate the equivalent machine code instructions. A whole range of directives or 'pseudo-ops' can be used to define symbols, designate areas of memory for data storage, place fixed values in memory and so on. The EQU Equate directive is particularly important since it allows labels to be defined for representing specific numerical values. For instance the statement... LF EQU 10 allows the programmer to use the term LF to specify a linefeed character instead of the less intuitive real value (10).



Next month you'll be ready to get those Coverdisk files into memory and give it a go!

SAFELY STORED

There are also a range of useful storage allocation directives. A ds (define storage) directive will for example, when written as ds.l, allocate space for one or more four-byte (long word) values and so to allocate a long word variable called _DOSBase we could use...

```
_DOSBase       ds.l     1
```

Data can easily be moved to and from such memory locations and to move the full 32-bit contents of register d0 to the above location we'd write...

```
move.l d0, _DOSBase
```

A directive, called dc.b (define constant bytes), is also available and can be used for placing text strings into memory like this...

```
dos_name dc.b 'dos.library',0
```

The string 'dos.library', plus a terminal null (0) character to signify the end of the string, gets placed into the program and there's an lea instruction that can load the start of the string into an address register using a statement like...

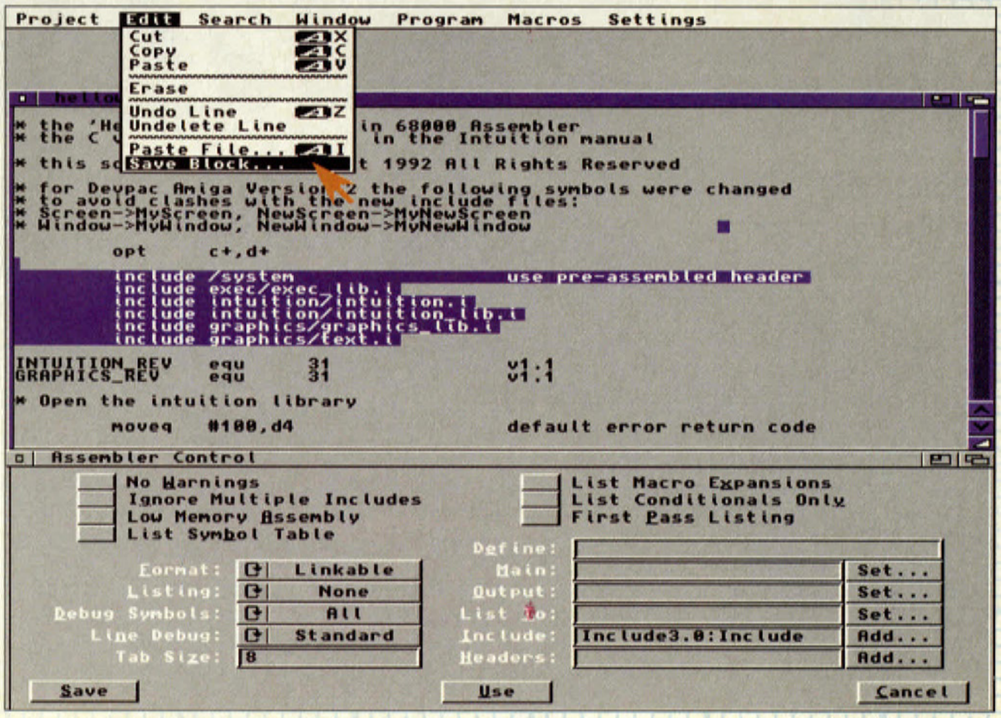
```
lea   dos_name,a1
```

As far as the 680x0 series are concerned this sort of stuff is just the start. There is a specialised instruction, movem, which allows the contents of multiple registers to be moved to (or from) memory using just a single instruction plus others that allow addition, subtraction, multiplication and addition and all common logic operations. For example the statement...

```
add.l d0, d1
```

causes the full (32-bit) contents of data register d0 to be added to the contents of register d1. On top of this the 680x0 can test, set, and clear individual bits and rotate and shift operands around. There are address calculation instructions, automated loop ones, and even instructions which allow data areas to be allocated within stack space as subroutine calls are made. That's all we've got time for here. Next month we'll be create an assembly language program with our Coverdisk code.

Once you've decided that assembler coding is for you it's worth getting a package like HiSoft's *Devpac*.





MailBag



Send your letters to: Letters To The Editor • Amiga Format • 30 Monmouth Street • Bath • Somerset BA1 2BW or email to:amformat@futurenet.co.uk – putting 'Mailbag' in the subject line.

FINAL SCRIPT?

Since purchasing *Final Writer Lite* in your special offer a while ago, I can only say how happy I am with the product. Not only is it the best program that I have ever used for word processing and DTP work, but its friendly accessibility has made it the most used program on my machine. Now that my A-Levels are over I am searching for and considering various jobs. One area I am keen to get into is the writing of novels, short stories and television/film scripts. My problem is that *Final Writer Lite* does not support an appropriate script layout option (it seems that these TV producers are very strict about the presentation of a script).

I have heard of a program called *Scriptware* on the PC through an advertisement in a film magazine, which is apparently a full scripting utility with correct layout and styling, etc.

Do you know if this or another similar program is available on the Amiga? At the moment I am improvising my own script style but obviously this will not be appropriate when it comes to presenting my finished work to a TV company.

Mark Harrison
Notts.

Okay. How do you think people wrote scripts before they had word-processors? With typewriters. They weren't special script-writing typewriters, because their is nothing particularly special about a script, it is just written in a particular format.

The reason TV companies like to have a standard script is that they can estimate the length of time it will run for by simply counting the pages of dialogue. And obviously, in any business it makes sense to have everyone working the same way.

But there isn't any reason why you can't produce scripts with Final Writer. In fact, you could even write them in MEMACS if you wanted. It's simply a matter of adhering to the conventions on spacing, indents, margins and so on.

If what you are saying is that you don't exactly know what format they would like the script in, then buying a piece of software is an expensive way of finding out. Many TV companies have submission guidelines which they would be happy to send you, and you will find plenty of books on the subject in your local library.



A word processor such as *Final Writer Lite* will cover all writing needs, including script layouts – just get the format right.

GRAPHIC APPEAL

A while ago you featured my *Graphic Workbench* program in your PD Select. Since it was featured in *AF*, the success of the program has been very encouraging. I am currently writing a new version of the program for the PC and I thought it would be nice to make the disk compatible with other platforms – although I have recently bought a PII, the Amiga is still important to me and I would like to continue supporting it.

Finding good images for the Amiga has been a lot harder than for the PC. I'm appealing to all *AF* readers for any pictures they have that they would be willing to let me use for the new *Graphic Workbench*, due to be released in March. Could any readers please call me on 07970 500074 and I will be happy to give my address and accept any new graphics for the project. I will, of course, credit their contribution on the CD.

Matthew Brough
Leeds

I'm glad that you've decided to continue supporting the Amiga, and I'm sure that our readers will flock to your aid.

MISSING USER INTERFACE

I noticed in your October issue that in future issues you propose to carry out Magic User Interface tutorials. If any other reader has had experiences like mine, these tutorials will be a waste of time as it has so far proved impossible for me to register for the Shareware.

On August 24, 1997, I sent off the registration form together with a cheque for £15 to Mr P. Jewell of Cardiff. A further reminder was sent in early September and finally I wrote direct to Stefan Stuntz on September 19. I have had no response and my faith in registering Shareware has virtually

Continued overleaf ➡



AMIGA FORMAT Christmas Crackers

"How do you spell CD? A S I M W A R E (more than £400-worth of it actually)..."

Asimware, those CDFS masters, have got a grand prize for a lucky winner: MasterISO2, Audio Thunder, AsimCDFS3.9, PhotoCD Manager and their Texture Heaven Double CD set with four copies of AsimCDFS for the runners-up. To win, send a postcard to: *AF* Asim Draw, Blittersoft, 6 Drakes Mews, Crownhill Industry, Milton Keynes, MK8 0ER



vanished. Unless there is a substantial improvement in the turn around for the registration of this Shareware I am afraid they will lose customers.

Mr. J. H. Smith
West Yorkshire

The MUI programming tutorial, which has now started, relies on programming MUI, for which you only need the software developers kit, you don't need to have registered (although you should).

I'm sorry that you haven't had a reply from Mr Jewell. I can tell you that he has moved address, and now resides at 48 Park Avenue, Porthcawl, Mid Glam. CF36 3ER. I understand there was some problem with mail not being forwarded properly, so I suggest you get in touch with him.

FREE AF

Just a quick note to express an idea I had the other day. You, the Amiga magazines, should work closely with Amiga Inc. I understand that you already have a relationship, but I think more communication is necessary. It is possible that you can help each other out. The following are ideas:

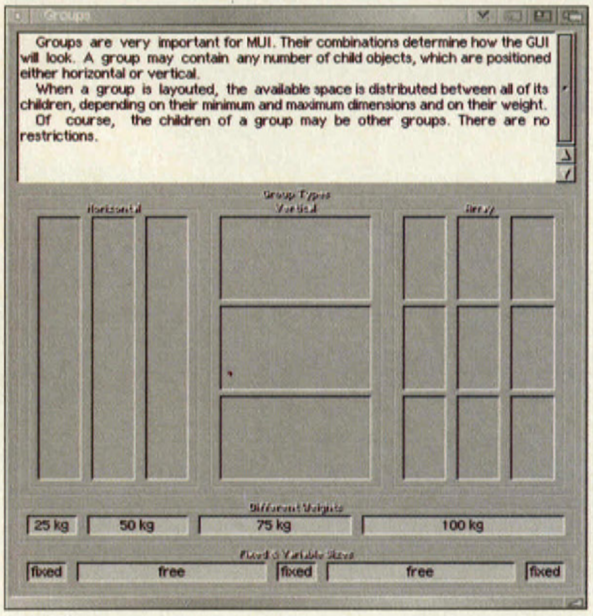
1. You could give a free copy of *Amiga Format* away with every new Amiga sold. This makes for a better deal for the buyer and gives you publicity – perhaps you do this already.
2. You could put a demo version of any new Amiga OS that comes out on to your cover CDs. This will give people even more reason to buy your magazine and would also give a bit of publicity to the operating system.

That's it! You may think it sucks but I think it's a pretty hot idea that would boost your mag. Anyway, why would you want to listen to an Irish amadán – particularly if you think we're all like the ones on EastEnders!

Kenneth Heslip
Dublin, Ireland

We used to provide a sample copy of the magazine with the Amiga, as I'm sure many of our readers remember. Unfortunately the practise stopped when a former head of Commodore UK, working for Escom, decided we would have to pay a huge sum of money for the privilege. It may be something that we can renegotiate in the future.

As for including Amiga Inc stuff on the CD, that is something we are already working on. Apples and pears, cor blimey guv.



Shareware registration problems shouldn't stop you from programming with the MUI.

BACK FOR THE FUTURE

I have been out of the Amiga scene for a few months but now, with the aid of my beloved '030, 10Mb A1200, I am back to stay. The first thing I did was buy a copy of *Amiga Format* and the second thing I did was jump for joy. I saw software coming at me from all sides, and not just serious stuff but games as well. Now I can run all this high-spec malarky and I am more than happy, but I feel compelled (or possessed, depending on your viewpoint) to remind Gateway 2000 not to forget this little machine.

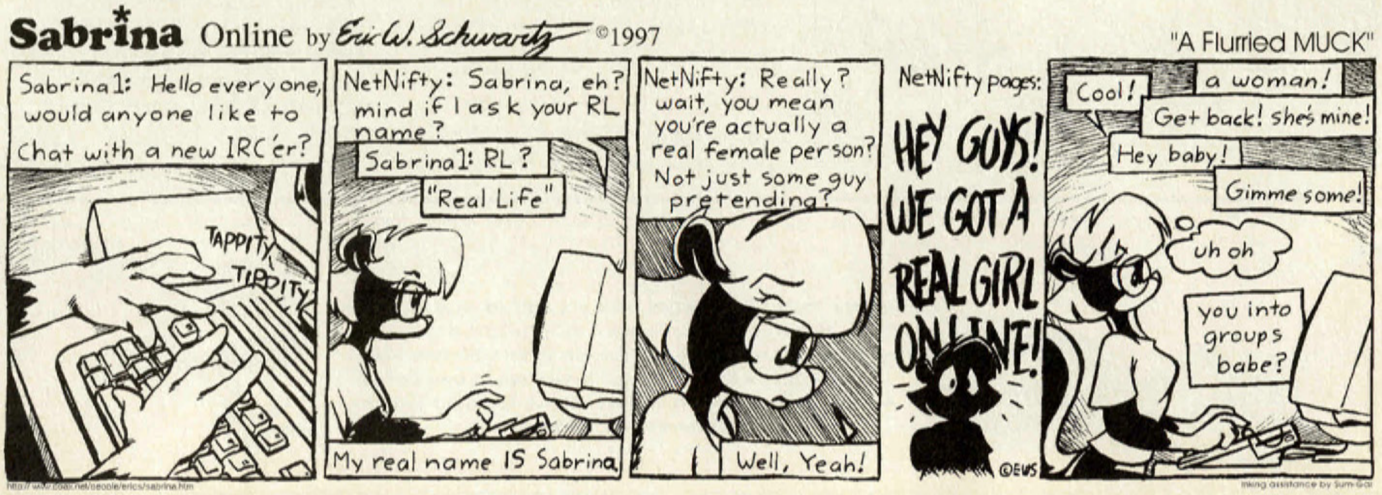
The Amiga is, and always will be here thanks to the A500s and their owners and while I wouldn't expect them to take a backwards leap, they must consider them. By keeping hardware prices down they will enable them to upgrade.

On the subject of upgrading, a plea to those in power. We don't need a story like the PC with upgrades needed every six months. The Amiga is coming back but if people try to make us buy hardware just to keep up with the Jones', then the greatest computer of this decade will die a permanent death. We are, after all, not stupid – we own an Amiga not a PC.

Vaughan Jackson
Doncaster

It would be ridiculous to go the route of the PC and end up having to junk your hardware every year just to run the latest software. But don't honestly think that is ever going to happen with the Amiga. Surprisingly, I have usually found that it is the people who don't upgrade their Amigas, the people with a 1Mb A500 running WB1.3, who are the ones who suddenly decide there is nothing for them in the Amiga market anymore, and then go and spend £1000 on some PC equipment that will be out of date in a few months.

Its not really a question of forcing people



to upgrade, but for example, if you want to play games on your Amiga, you're going to need a CD-ROM drive, because that's what more and more new games require.

UNFAIR COMPETITION

I'm an avid fan of not only Amigas, but also *Amiga Format*. However, I am only 15 and have little money, which means that I find it hard to get what I want for my Amiga (a heavily converted A2000). I live in New Zealand, the Amiga community's equivalent to Hillbilly country and there are few, if any, Amiga stockists. I have added a CD-ROM drive, a 1.7Gb SCSI hard drive, 8Mb of RAM and installed all of this into a full height tower case. I later found that the keyboard extension cable I made for inside the case was not earthed and had damaged the CIAs. I bought an A500+ for 50 bucks (about £15) and using a serial network program called *NetKeyboard* by Patrick Van Beem, I managed to get by.

I am currently making some good quality objects for *Imagine* and am trying my hand at programming (Egads! What is a hash table?).

Finally, I have a single niggle with your otherwise excellent magazine. The competitions close about one month before the mag arrives in the shops here (I've also heard that the subscribers' mags arrive late as well). I waited eagerly for your 100th issue because of the prizes and I was just about to mail my postcards when I read the closing date. You can imagine my horror because this wasn't the first time.

We may only number 100 but it sure irks us that our favourite magazine denies us the right to enter the competitions.

Otherwise I love your mag and long live the Amiga!

Scott Mohekey
Nelson, New Zealand

We do take great care to try and allow enough time for everybody to enter our competitions,

Continued overleaf ➡

GOOD SUPPORT

I have an accelerated A1200 with 10Mb of RAM, a 240 Mb IDE hard drive and a 2x SCSI CD-ROM mounted onto the PCMCIA via a Squirrel. The printer I bought with the system was a worthy, but now outmoded, Star LC200.

I wanted to upgrade my printer to a colour inkjet but which one? I had no idea and worse, no knowledge other than they are better than dot matrix printers.

My first port of call was Dixons. I didn't take the plunge there and then because I thought a little more research was needed, although the Canon BJC 120 and Lexmark appealed.

My second port of call was the *AF* office. You advised the Canon BJC 4200 or BJC 240. You also informed me that the Lexmark was, to all intents and purposes, a Hewlett Packard in a new suit.

I knew that a printer needed a driver, so on to the printer manufacturers themselves and here come some useful numbers and titbits of info.

Canon – Technical enquiries: 0990 143723:

"Yes, we have two inkjet printers with Amiga drivers – the BJC 240 and BJC 4200." They were also happy to supply the drivers on demand.

Hewlett Packard – Technical enquiries: 0990 474747:

"No we don't provide drivers for the Amiga – you will have to contact Amiga." They gave me a phone number (01525 718181) which turned out to be HiSoft's.

Lexmark – Technical enquiries: 01628 481500:

"What? No, we only do drivers for PCs." I gave them HiSoft's number.

Epson - Technical enquiries: 01442 61144:

"No, we only do drivers for PCs." I offered them my HiSoft number again.

I called HiSoft. They told me they had drivers for all Hewlett Packards, except the 820 series, all Canons, all Lexmarks and all Epsons. I asked how much for a driver and learned that it is not as simple as that. HiSoft don't sell individual drivers but they do have a software package called *Studio*, which tailors the print output of the Amiga to more or less any printer at a cost of £35.

The glimmer of hope is Canon, a company which has had the foresight to talk and deal with HiSoft. Canon's gratis driver is a cut-down version of *CanonStudio*, which in turn is a Canon-specific version of *Studio* by HiSoft. Furthermore, *CanonStudio* is only £20.

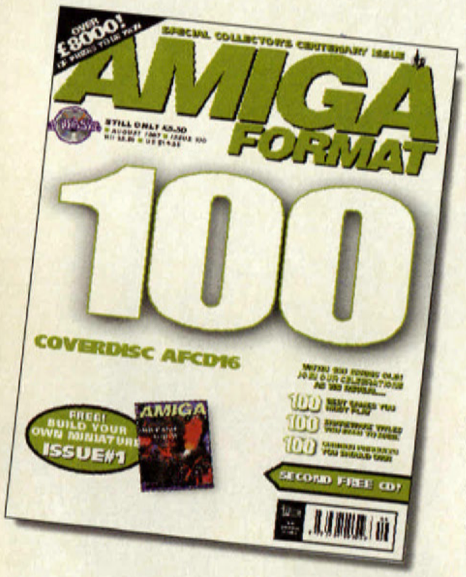
My mind was almost made up. Argos had a BJC 4200 for £179 – time to go shopping to try and beat that price. The PC mags with all the adverts are one of the best places to look and mail order is okay, as long as you take the cost of delivery into account. Better still, you could share the cost (ie. get a PC owner to order more memory as they always need that).

As far as the Amiga is concerned, apart for Canon, I found the printer manufacturers rather disinterested, a disappointing attitude bearing in mind the thousands of us out there. This did have an influence on my final decision. I settled for a Canon BJC 4200 and ordered it from DABs Direct for £154 plus p&p (which I did share with a PC owner!). The driver was duly provided by Canon on request and as I'd managed to save a bit on the purchase price of the printer I rounded the package off with a copy of *CanonStudio*.

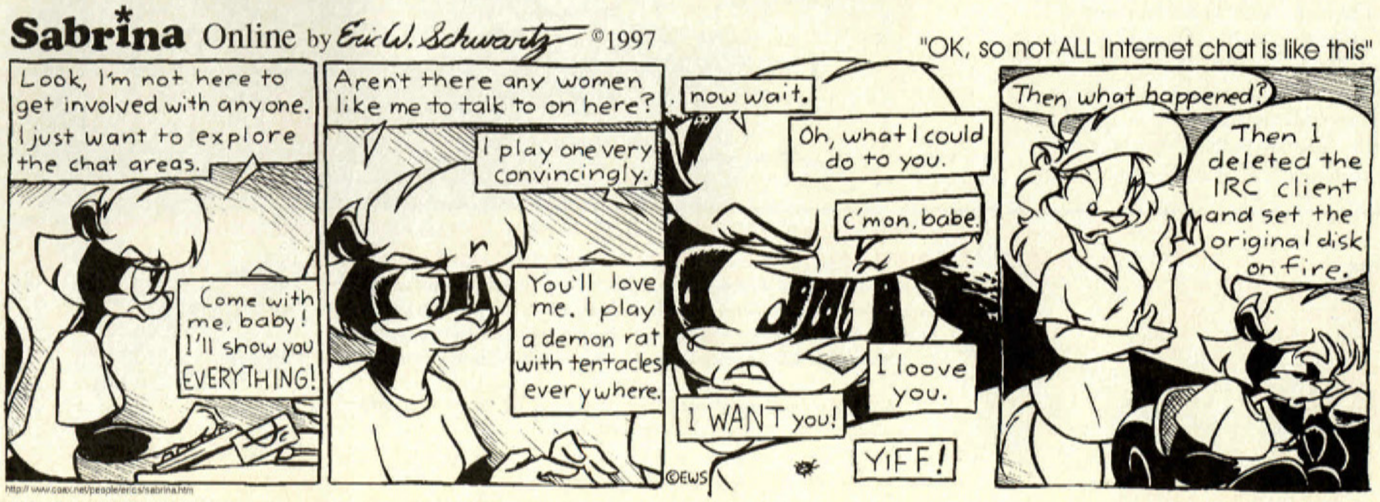
Anyway, here endeth the epistle. I hope there are a few gems worth disseminating. My next project/purchase will be a scanner. It was a shame you only reviewed the one.

D. G. Sturt
Cornwall

Well, I'm glad that our advice was useful to you. As reported in AF, Epson will soon be providing Amiga support for all their printers, and hopefully many of their other products too. As regards the other printer manufacturers, with the notable exception of Canon, why bother giving money to companies who don't know or care if your computer exists?



Our 100th issue competition dates were too early for some readers abroad – try to win some great prizes in this issue instead!



TOMORROW PEOPLE

With reference to one of your sister magazines, *T3* has stated that the Amiga is no longer being made as a home computer. Obviously, if somebody who works for Future Publishing prints that the Amiga is not being made, then people will not know about, or purchase, new Amigas.

I think it would be a good idea to let somebody from *T3* do a feature on the new Amiga. All they would have to do would be to leave their cosy little *T3* office and come along to your swanky new offices and try one. Hope to see an article on the new Amiga in *T3* very soon.

Mr. J. Hayes
Liverpool

Could someone please give a sound ticking off to *T3* magazine and tell them that Amigas are for sale again. Their Technofile report on page 9 of November's issue states that Amigas are no longer produced as home computers.

Nathan Sumner
Portsmouth

Yes, I did exchange a few words about the story with the editor of T3. Since he used to be the editor of Amiga Format, you'd think he'd know better. I'm sure they will be covering new Amigas in a future issue.



T3 – covering the technology of the future, but a little behind the times with news of any new Amigas.

but because the actual distribution is not handled by us in some of the more distant parts of the globe, it is difficult to determine exactly when issues will be on sale.

I know we also got a number of letters from Australia and the USA along the same lines. The confusing thing is that we also had cards from these countries which arrived well before the closing date, and some of them even won.

We do usually include a few day's grace for foreign entries, but I think you should check with your supplier. That issue was on sale during the first week of July in Europe.

ON THE CHIN

I'm writing in connection to the letter about Digitizer in *AF103*. I agree with the ed's opinion that replying to goads is likely to be a waste of breath, ink or whatever. They'll do what they want anyway – tougher times merely reveal who your true friends in the business really are. Let's face it, envy is a terrible thing and anyone who sees fit to try and undermine or ridicule the Amiga must suffer from a bad case of insecurity.

Surely, as fellow Amigans, we are all man/woman enough to take such petty remarks in our stride. Why waste time fretting about what other people think when we have such an exciting future ahead of us? We make the Amiga what it is by our support and the obvious enjoyment we get from it.

I live on a small island, about 50 miles or so north of John O' Groats on the north coast of Scotland. The island is only seven miles long and the weather in winter can get pretty bad at times, but the Amiga provides a great source of entertainment during the long winter nights. My local computer shop (on an island 15 miles away) says there are a fair few Amiga users in Orkney, although there don't appear to be any user groups. This does show that even in the remote parts of Britain, the Amiga is still going strong.

A. Lancaster
Orkney

I'm quite sure that the fiendish perpetrators of such cheap and unimaginative "journalism" are hoping to get a large response of angry letters, just to assure themselves that their writing can have some effect, even if it is a negative one.

I'm pleased that you and your island neighbours still get lots of pleasure out of the Amiga. I'll be sending you a relief pack with a few AF sweatshirts to help you through the winter.

SUBSCRIPTIONS DOWN UNDER

I was thinking of subscribing to *AF*, but I'm not sure if I can do that in New Zealand. Would it get here any quicker or safer? It takes about three months to get here, and sometimes the CD or magazine gets damaged on the way (I can't get the disk version where I live, which is disappointing).

David Thomsen
Wanganui, New Zealand

Yes, if you did subscribe, your magazine would get there a lot faster, as overseas subscriptions are served by airmail. You should get it within a week of the on sale date in the UK, so, by your reckoning, about two and a half months earlier.

There was some trouble with shipping the CD issues out. As they received quite a bit of punishment, sometimes the CD cases, or ocassionally the CD itself would get cracked in transit. The subs copies are reinforced with cardboard to prevent this happening. So it does make sense to subscribe.



Get the world's best-selling Amiga mag delivered quickly and safely by subscribing.

AMIGA FORMAT *Christmas Crackers*

"What did Magellan say to the 3D artist (worth £430)?"

Wizard Developments, those nice people, have a corker of a prize for you this time. The two winners will each receive a copy of the brand new Aladdin 4D and a copy of DOpus Magellan and a runner up can also have a copy of DOpus Magellan for their trouble. Send a postcard to:

***AF* Christmas draw, Wizard Developments, PO Box 490, Dartford, Kent, DA1 2UH**

Eyetech's Winter Warmers: A1200 Magic Packs with £180 worth of vouchers - £249.95; EZ-IDE s/w from £12.50; 030 accel's from £68.95 ; 040/25MHz (19 MIPS) £138.95; 39 Mips '060/50MHz £278.95; A600 33MHz '030/MMU/FPU/standard simm to 32MB - £99.95; DIY-EZ-Tower from £99.95; 8-speed CDPlus £149.95; 460KBaud PortJnr £46.95; LS120 0.72/1.44/120MB superfloppy £114.95; (Price down, New)

Q. What fits in a floppy bay and reads & writes 120 MB PC & Amiga cartridges AND 720KB & 1.44 MB PC diskettes?

A. The All-New LS120 ATAPI drive from Eyetech



- 120MB backup and PC 1.44MB diskette compatibility in one unit
- Bare Drive just £114.95 .120MB cartridges just £14.95/1 or £34.95/3
- EZ-IDE universal EIDE driver software is required - 50% discount when ordered with the LS120 or 4-device buffered interface . Upgrades available from Eyetech-supplied IDE-fix available - see below right.

HEALTH WARNING *"A buffered IDE interface is essential to avoid overloading of the A1200's IDE port when adding extra devices"- John Kennedy - AF - July 1997*

Don't be tempted to skimp. Fit an Eyetech 4-way IDE/ATAPI 3-chip buffered expander to preserve your Amiga's Health. *The original and best - Just £39.95.* **Now with 50% discount off EZ-IDE software**

The Mk2 EZ-TOWER



"This definitely one of the easiest solutions to building your own tower." John Kennedy, Amiga Format - July 1997

Mk2 EZ-Tower with DFO: faceplate/cable - £119.95

DIY option - all parts/instructions provided - £99.95

Collection, fitting and delivery service - *Please ring*

See our full-page EZ-Tower feature advert elsewhere in this magazine

... Or buy a CDPlus unit (below) and get an EZ-Tower for just £99.95* (*as an alternative to the regular CDPlus case)

Amiga 1200 Magic Packs



- Direct to Eyetech from Amiga International Inc.

- Full UK specification with Kickstart 3.1/Workbench 3.1 disks and manuals, UK psu, mouse, mousemat and TV lead.
- Fantastic software bundle including Wordworth 4SE,Turbocalc 3.5, Datastore 1.1, Photogenics 1.2SE, Personal Paint 6.4, Organiser 1.1, Pinball Mania and Whizz
- Three very special Eyetech bundles designed to meet every need and budget - all with 12 months return-to-base warranty

The Eyetech Starter Pack *Just £249.95*

- Diskette pack as above with 2MB graphics/program memory and built in hard drive interface. Hard drive and memory expansion recommended for non-games use.
- ***Over £180 worth of discount vouchers for future hard drive, CDROM, accelerator/ memory and EZ-Tower upgrades from Eyetech***

The Eyetech Productivity Pack *Just £299.95*

- As above with 2MB graphics/program memory and ***170MB hard drive*** . Just switch on & use straight from the box!
- Scala MM300 preinstalled on the hard disk (needs 4MB memory expansion to run properly)
- ***Over £180 worth of discount vouchers for future hard drive, CDROM, accelerator/ memory and EZ-Tower upgrades from Eyetech***

The Eyetech *EZ-Tower* Professional Pack *Just £799.95*

- Full ***EZ-Tower*** with ***EZ-Key*** keyboard adapter, ***Windows95 keyboard,*** and ***250W psu,*** with software and manuals as above and with mouse, mousemat & TV lead. (No A1200 k/b or psu)
- ***25MHz '040*** processor (approx 19 Mips) with MMU & FPU and ***16MB*** of program memory.
- ***1.7GB TowerDrive*** with Workbench 3.1 and shareware utilities preinstalled
- ***8-speed CDROM*** including the ***Eyetech 4-device buffered interface*** and ***fully registered CDROM/hard drive/IDE Zip drive/LS120 driver software preinstalled***
- ***880KB floppy drive*** including faceplate
- Fully installed and tested together with all relevant cables and manuals

AND the option to have fitted:

- An ***LS120*** 720KB/1.44MB/120MB drive/cable for ***just £99.95 extra*** (at time of purchase only)

EZ-IDE

New! Only available from Eyetech - *the* Amiga IDE/ATAPI peripheral specialists. Probably the only hard drive/CDROM/LS120/ZIP/SyQuest s/w you'll ever need.

- Supports LS120, Zip, Jaz, SyQuest and other IDE/ATAPI removable cartridge drives AUTOMATICALLY. Cartridges just appear on the Workbench when inserted and disappear when ejected! Eyetech's IDE ZipPrep Tools are also included.
- Optimises IDE hard drive performance automatically. Eliminates 'MaxTransfer' nightmares.
- Extensive CDROM support including multidisk changers, direct digital audio transfer, CD32 emulation, high performance filesystem support for Amiga, Mac and PC CDs.
- Ready-to-use as shipped. No sending away to foriegn parts for registration codes as with the 'commercial' versions of IDE-*fix*97 and Atapi Pn'P.

EZ-IDE s/w	£34.95
Upgrade from Eyetech-supplied* IDE-*fix*	£12.50
With* 4-dev i/f, CDPlus, IDE Zip or LS120	£17.50
Competitive u/grade*	£24.95

**Trade-in & proof of purchase required*

The Top-Rated Eyetech *CDPlus* for the A1200

- 8-, 16- or 24-speed external CDROM unit in quality, CE-approved case with heavy duty PSU
- Leaves trapdoor free for accelerators / memory expansion and the PCMCIA slot free for digitisers, modems, samplers etc
- Option to add additional HD's, CDRoms, LS120s, SyQuests, *IDE Zips*, Jazs, SyJets, ATAPI tape streamers etc powered from the CDPlus unit
- Comes with special Eyetech *'060-compatible* Mk2 4-device EIDE buffered interface board - easily fitted in minutes with no cutting/drilling (Note that IDE CDROMS *must never* be directly connected to the A1200 without a buffered interface - ask any qualified electronics engineer!)
- Gold plated audio phono sockets at rear (CD+ only) and front panel headphone socket and volume control



The CDPlus and SyQuest EZ135 drives. The IDE Zip Drive is the same size as the EZ135

Amazing Value **NEW! 24-Speed -*only* £199.95**

8-speed - *only* £149.95 16-Speed -*only* £179.95

Considering a PowerStation?



The CDPlus is now available with a, 230W, CE-approved, PC MiniTower* or Desktop* case (which can also power your A1200) - *for only £20 extra*

(*as an alternative to the regular CDPlus case)

What do the reviewers say?

Amiga User International - *97%*

"... It all worked faultlessly ... "

Amiga Format - *96%*

"... An absolutely superb bit of kit.."

Amiga Shopper - *90%*

"... This is a quality product..."

The Amazing Iomega *IDE* Zip Drive

Another first from Eyetech

- *Can be used in place of - or as well as*- the internal hard drive*
- *Use a different bootable cartridge for each application or family member*
- *Ideal for transferring multimedia data between Amigas and/or other platforms*
- ***Fits in any Amiga/desktop/minitower floppy drive bay or in external case***

CARTRIDGE CHANGES AUTOMATICALLY RECOGNISED!



The IDE Zip drive fitted in an A1200

Bare IDE Zip drive *(inc Eyetech V2.0 Ziptools)* **- Just £119.95**

100MB Zip cartridges just £14.95/1 or £34.95/3 (*A600/1200 buffered interface needed)

A1200 *InstantDrives* & *TowerDrives*

***InstantDrives* and *TowerDrives* are *only* available from Eyetech**



"The fastest drive I have tested on any platform ...95%" **- David Taylor - Amiga Format February 1997**

Important Notes!

Thinking of buying a **BIG** drive? Dont waste your money on ***ANY DRIVE OVER 4.3GB*** as the Amiga O/S doesn't support it! (2^32-1 bytes actually). Be warned!

3.5" hard drives - even those described as *'Slim'* - are usually 1"/25mm high and ***will not*** fit in an A1200 without significant modifications to the case and metal shielding - which itself reduces the value of your computer.

- InstantDrives require no hole drilling, case clipping, or shield removal required and 3.5" InstantDrives come Inclusive of full fitting kit and easy-to-follow instructions
- All drives come ready-to-use with WB3.0 preinstalled & WB2.x install script.
- All drives over 350MB also come with over 45 top quality utilities (not shovelware) ***and*** MMe multimedia authoring software preinstalled, configured and ready-to-run.

InstantDrives:		2.56GB AV(~3MB/s)	£219.95
TowerDrives:		1.2GB	£139.95
1.7GB	£159.95	2.11GB	£169.95
3.2GB	£189.95	4GB *(to the limit!)*	£249.95

2.5" InstantDrives for the A600, A1200, SX32 & SX32 Pro

170MB	A 2.5" drive ideal for the SX32Mk2 and for the A1200/A600	£79.95
540MB	A fast, superslim drive with ample capacity for most users	£129.95
810MB	A superb, superslim drive ideal for users of serious applications	£159.95
1.08GB	The high performance superslim drive is ideal for power users	£179.95
1.8GB	This top-of-the-range drive is perfect for the A1200 & SX32Pro	£189.95

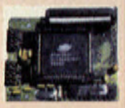
D-I-Y and Bargain Corner

Hard-to-find parts for your Amiga project

Hard , floppy drive cables and cases	
2.5"-2.5" 44-way 2.5" HD cables 9cm **£8.95**, 13cm ,**£9.95**, 60cm	£19.95
2.5" 3x44-way hard drive cables for 2 x 2.5" drives (6cm+6cm)	£12.95
3.5" power & data cables for A600 & A1200 **£14.95**; full fitting kit	£24.95
3.5" external hard drive case **£19.95**, 3.5" removable drive case	£24.95
Metal CDROM case (no psu) Free with another purchase (1/customer)	
3 x 40-way IDE cable for 3.5" HD/CDROM ~85cm/2' 9"	£9.95
Custom 3 x 40 IDE cables to 1.5m/5' (enclose drawing)	£19.95
3.5" hard drive to 5.25" bay mounting adapters	£5.95
2.5" hard drive to 3.5" bay with 3.5" data/power cable adapters	£11.95
3.5" floppy/SyQuest/Zip drive to 5.25" bay mounting adapters	£6.95
40 pin m-f detachable data cable forexternal 3.5" HD/CDROM's	£9.95
Slimline external floppy/IDE SyQuest/IDE ZIP/IDE Jaz case	£9.95
SCSI cable 25way 'D'(m)to 50way Centronics (m) (1m)	£9.95
SCSI cable 50way Centronics (m) to 50way Centronics (m) (1m)	£9.95
2 x 34pin ribbon cable + faceplate for A1200 int'l floppy in tower	£12.95
23p-M to 23p-F external floppy ext'n cable **0.5m £12.95; 2m**	£14.95
Audio & video cables and adapters	
3.5mm stereo jack plug to 2 x phono plugs for CDROM	£5.95
CDROM standard 4 pin inverted T audio connector & phono plugs	£9.95
Phono plug x 2 to phono plug/socket x 2 audio mixer leads	£6.95
Stereo 2 x phono plug to 2 x phono plug 1.1m/4' (4.8m/16' **£9.95**)	£4.95
Stereo speakers (pair), with amp (16wPMPO) & mains psu	£9.95
Power supplies , cables and PC towers//desktops with integral psus	
IDE or SCSI CDROM case, 40w PSU, audio & data connect's	£59.95
Enhanced metal cased PSU for A600/A1200/CD32/CDROM/ external HD (fit your old lead - instructions provided)	£29.95
Mini-tower or desktop case with 200W/230W PSU, CD & HD/Zip bay, power lead connector block, resistor, cable restraint etc, & full instr'ns	£39.95
Genuine CD32 PSU **£14.95;** Genuine A1200 PSU	£19.95
4-pin M-F HD prw extn 0.9m/3' **£9.95;** 4-pin(m)->2x4-pin(f) splitter	£6.95
23 pin m floppy drive connector to 4 pin HD/CDROM power plug	£9.95
Miscellaneous	
A1200 /SX32 internal cooling fan - dissipate that extra power!	£14.95
VGA 23-15 pin adapter for A500/600/1200 **£12.95;** buf for A4K	£19.95
A4000 kbds (new) for CD32/A2000*/3000*/4000 (*adapter +£5)	£39.95
50MHz capable PGA FPU £39.95; A1200 RAM boards	£29.95
Amiga CDROM disks - our selection - 5 for	£10.00
A1200/A600 internal floppy drives £24.95; A1200 keyboards	£29.95
Amiga microswitched mouse with mousemat	£6.95
28.8/14.4 compact data/fax modems £39.95, **14.4/14.4 from**	£19.95
A1200 Workbench 3.0 disks (5) £14.95 **WB3.1 disks (6)**	£19.95

Two new A1200 Expansion Products from Eyetech

PortPlus **- high speed serial and parallel port expansion**



- *2 x **460Kbaud** buffered serial ports with low CPU overhead*
- *PC & Amiga compatible parallel port transferring up to **500K bytes/sec***
- *Optional high speed PC-Amiga & Amiga-Amiga **networking software***
- ***Leaves PCMCIA & trapdoor free** ; accelerator friendly & very easy to fit*

PortPlus - just £89.95! (WITH parallel port driver!)

New! *PortJnr*- 1 high speed serial port - *just* £46.95

Apollo Accelerators - Unbeatable pricing



A600 - **33MHz '030 with MMU & FPU exp to 32MB**		***£99.95***
Entry level A1200 Accelerators - Unbelievable value		
25MHz '030 with MMU & FPU. (5 Mips)	*- Just*	*£68.95*
33MHz '030 with MMU & FPU. (7 Mips)	*- Just*	*£79.95*
Power User A1200 '040/'060 accelerators (no tower req'd)		
25MHz '040 with MMU & FPU. (19 Mips)	*- Only*	*£138.95*
33MHz '040 with MMU & FPU. (25 Mips)	*- Only*	*£158.95*
40MHz '040 with MMU & FPU. (30 Mips)	*- Only*	*£198.95*
50MHz '060 with MMU & FPU. (39 Mips)	*- Only*	*£278.95*
66MHz '060 with MMU & FPU. (51 Mips)	*- Only*	*£339.95*

A Standard A1200 is rated at 1.3 Mips. All measurements from Sysinfo

Memory : 4MB - £18.45; 8MB - £29.95; 16MB - £54.95; 32MB - £99.95

Interface Island

Where your Amiga does more

A1200/A4000 non-Zorro	
4-device A1200 buffered EIDE i/f	£39.95
4-device EIDE interface for A4000	£29.95
EZ-Key **A1200-PC/A2000 k/b adapt'r**	£39.95
EZ-DF0 **interface for Sony floppy**	£14.95
EZ-DF0 **i/f, with Sony floppy & cable**	£39.95
DiskPlus **DD/HD Amiga & PC 2x FDD i/f**	
- for A1200 hard drive IDE port	£64.95
- for A1200 clock port	£69.95
- for A4000 IDE port	£69.95
PortPlus 2x 460Kbaud ser + 1 x par	£89.95
PortJnr 1x 460Kbaud serial port	£46.95
Audio mixer skts/leads for EZ-Tower	£19.95
Zorro II/III	
GG2+ - use PC cards in Z2 slots	£129.95
IDEPlus 3x2 IDE + 2x DD/HD PC & Amiga floppies. With full IDEfix CDROM s/w	£79.95

SX32Mk2 - £149.95

SX32Pro50 - £299.95

SX32Pro40EC-£249.95



ScanQuix3 Scanner Software

for all Epson parallel or SCSI scanners and HP, Mustek, Artek SCSI scanners

"An excellent piece of software"

Gold award - Amiga Format 11/97

- 24 bit scanning with full range of editing options
- 'Scan-to-disk' option in Jpeg or IFF formats
- Stand-alone use or integrates with your Art package (Photogenics, ImageFX, AdPro, XiPaint, Pagestream 3, DPaint5, ArtEffect, PPaint)

ScanQuix v3.0 - only £59.95

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Next Day delivery to EC and USA/Canada. Worldwide deliveries in 2-7 days from receipt of faxed order and payment details. (eg SX32 next day to NYC £25.30)

UK m'land next day insured del'y charges: S/w, cables, buffered i/f £3; 2.5" drives, accel's, mem boards £6; manuals £7; 3.5" drives, modems, psu's £9.50; Twrs, CD+ (2day)£10

Ring/fax/email for other delivery costs

UK bank/building society cheques, Visa*, Mastercard*, Switch, Delta, Connect, Postal/ Money orders accepted. * A 3% surcharge is applicable to all credit card orders.

Due to space limitations some of the specs given are indicitive only - please ring/write for further details. **Please check prices, specs and availability before ordering. If ordering by post please include a contact phone no.** Goods are not supplied on a trial basis. E&OE. All prices include VAT at 17.5%. VAT is not applicable to non-EC orders

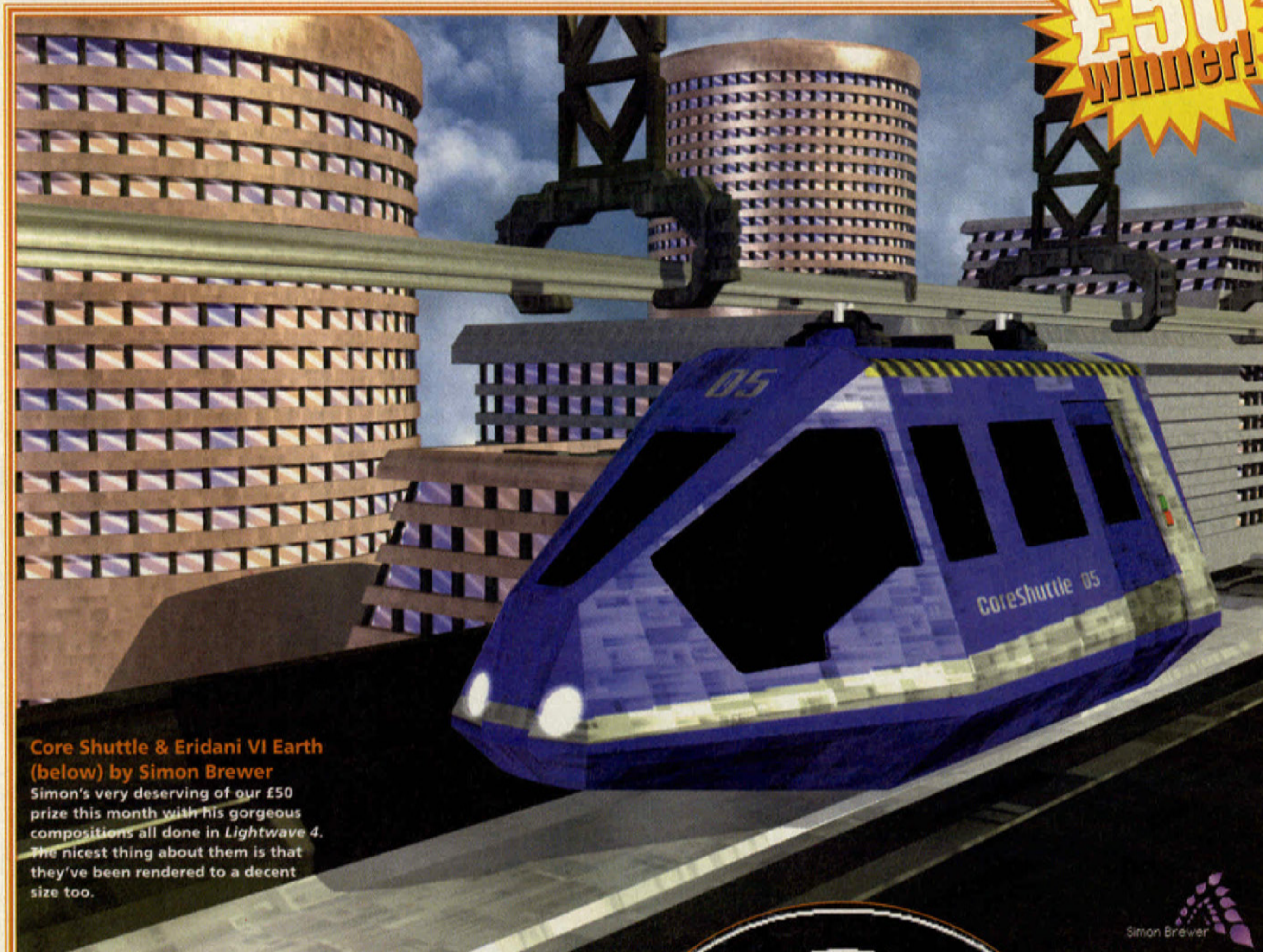
The Gallery

AFCD21:-ReaderStuff-/-Gallery-

ON THIS MONTH'S CD

Nothing festive here, but a great bunch of pictures all the same in our new expanded Gallery!

£50 winner!

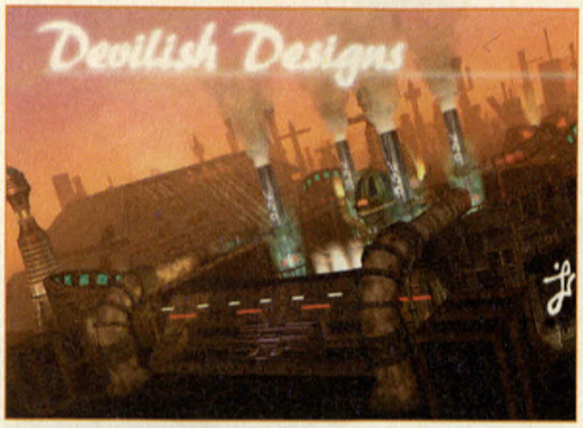


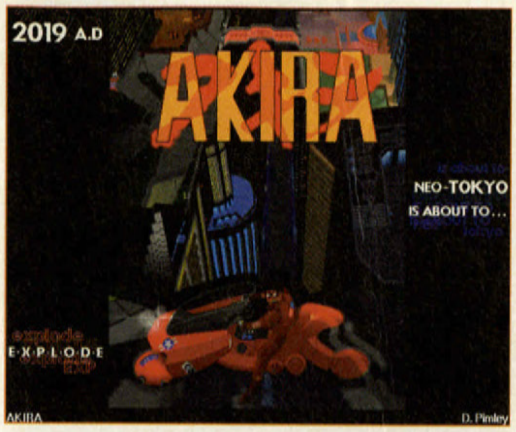
Core Shuttle & Eridani VI Earth (below) by Simon Brewer
Simon's very deserving of our £50 prize this month with his gorgeous compositions all done in *Lightwave 4*. The nicest thing about them is that they've been rendered to a decent size too.





Acid Raster by Daniel Pimley
The result of an experiment, Acid Raster has come out looking lovely, even if it is a bit out of date now Daniel!





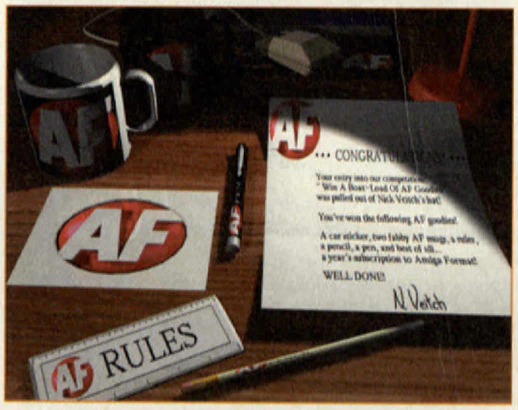
Akira by Daniel Pimley
Dan's second in the gallery this month is a nice hand-drawn version of the Akira video cover.



Batman by Mark Green
This image's simplicity is what keeps it fresh, even if it has been copied from a box.



TestCool (top) and Baldie by Jeff Ranasinghe
Two more excellent *Lightwave* renders from Jeff this month. The moodiness of the first is only exceeded by the texture of the second.

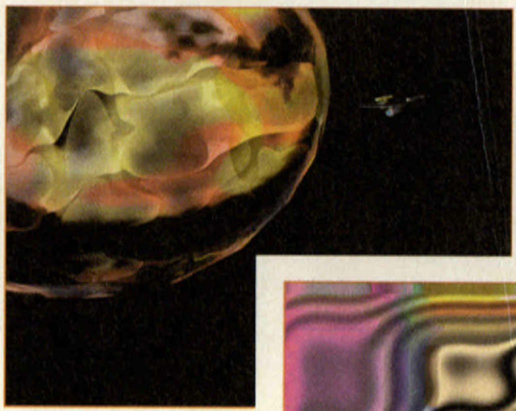


***AF* Merchandise by Chris Haynes**
Another *Lightwave* render, this time referencing an old Gallery entry from Chris (the parachuting lemming mousemat in the background). Perhaps we should do mugs?

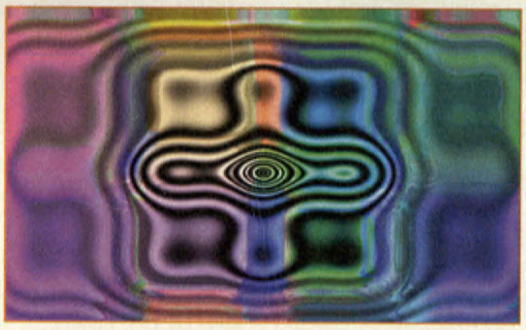




Hanging Around by Dimitris Katsafouros
Dimitris tells us he did all this in *DPaint*. If that's so, then the amount of texture he's managed to get into the image is lovely.



PTLFO by Craig Thorburn
You can find out what the title means on the CD, but you should have made the ship a bit bigger Craig, I can hardly see it as it is.



Face (above) and Abstract by Ben Bogart
Ben's pictures on the CD all seem to have an abstract feel to them. This pair are a good representation.

Readers Ads

Haggle and barter for your Christmas prezzies in *Amiga Format*'s bargain basement of hardware and software!

For Sale

● **Magnum 33 MHz accelerator** 8mb £80 (new), 14.4k Fax/Modem £40 ono + postage. ☎ J. Scott 01900 63568.

● **Amiga 1200,** 80 meg HD (2.5"), includes manuals, disks, mouse, leads, power pack and extra games. All in original box. Good condition £150. ☎ James on 01582 472947.

● **Loads of Amiga** and generic hardware for sale including Amiga external floppy drive, midi interface, sound sampler, power cables, drive cables, connectors, blanking plates etc. ☎ 0121 770 7676, rdm@amidev.u-net.com for details.

● **Amiga applications for sale,** including Photogenics, Adorage-AGA, Imagine 3, Pagestream 2.22, Print Studio 2, Final Writer 4 Turbocalc, AmiFileSafe, DPaint, Music-X, AMOS Professional, VistaPro,Maxon Magic and others. ☎ 0121 770 7676. E-mail rdm@amidev.u-net.com for details.

● **Panasonic KX-P2135 24-Pin** colour dot matrix printer. Boxed with instructions. Includes colour and black ribbon and printer lead. £40 o.n.o. Stephen Gill, 3 Raby Road, Redcar, Cleveland, TS10 2HF. ☎ 01642 481511

● **A600 2Mb,** mouse, PSU, WB2.04, various software: FI511, FII7A, Monkey Island 1/2 plus more £100 ono., may swap for SCSI CD-ROM with interface or modem with leads. ☎ 01992 479641.

● **Surf Squirrel:** £65, Amitek TV Modulator: £15, A500 Hand Scanner: £15, Squirrel Classic: £50, Grand Prix: £5, Frontier: £6, Subwar 2050: £7, M1 Tank Platoon: £5. Call Mike ☎ 01784 885914.

● **Subwar 2050,** Skeleton Krew, Pinball Fantasies, Overlord, Jurassic Park, Jungle Strike, Lion King, James Pond 2: £7 each inc. P+P. Amitek Mamba Modulator new boxed: £15. Call Mike ☎ 01784 885914.

● **ABC 24-PIN CITIZEN,** 4MB 72-pin SIMM, PPaint v4, Colour Master, GFA Basic, Kindwords 2. Spare chips for A500/CDTV, Phase 1 CD, Phase 2 CD ☎ Keith on 01322 359720 evenings, Erith.

● **Classic Squirrel** with Reno 2x speed CD-ROM drive. Comes with all software and manuals and I'll throw in two CDs! £60. No offers! ☎ Mick on 01282 694231.

● **A1200 with 250Mb hard drive,** lots of software, monitor and printer. Expanded to 4 meg. £130 ono. ☎ Andy Bennett 0181 5037814.

● **1.2GB 2.5" IDE HD** with prep software and cable, screws £125 ono. Will partition and format and install Workbench 3.0/3.1 if required. Lots of Aminet Software included. David ☎ 01904 624637.

● **Amiga 4000/030,** 10 Mb RAM, 300Mb HD, FPU, GVP SCSI controller, lots of software and accessories, 100's of magazines and disks, all manuals and boxes, no monitor: £500. ☎ Robin 01277 623091.

● **2 MB memory** for Oktagon controller. Will swap for the CD version. ☎ Mal Harnden 01780 784054.

● **3000+ Spectrum games** on CD, with emulators, £10. Send cheque to Ian Otter, 5 Vaughan Avenue, Grimsby, DN32 8QB.

● **Amiga CD32** with SX-I expansion keyboard, external disk drive, mouse and power supply, joystick. £140, will

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split. ☎ M Bates 0161 406 6907.

● **A4000/060 120 Mb IDE.** 1Gb SCSI. Oktagon SCSI card. Quad SCSI CD ROM. 38 Mb RAM. V-Lab, hi-res monitor, loads of software. Complete and powerful graphics station £950 ono. ☎ Brian 01384 860358.

● **A1200, 8 Mb RAM** expansion with FPU and clock £470. A1200 PSU: £40. EIDE CD-ROM case (with PSU): £25. Supra 5OO RX (for A5OO), 2 MB: £20. ☎ 0385 990023.

● **Hama 292 Genlock,** Sima Screen Writer, Sima Pro/Edit 3X, Digital Video Processing Centre. Also Sony SB-V88 Edit Selector. All manuals + cables. Power Units for sale. All boxed £180 ono. ☎ 01543 258079.

● **Amiga Format,** CU, AUI, Amiga Computing, from Jan 94 – Jan 97 with coverdisks: £80 ono. Buyer must collect or pay postage (!). Wanted: version of Lightwave, cheap as possible. ☎ Andy: 01204 659968. Bolton (anytime).

● **Blizzard 1220/4** accelerator with 4Mb RAM, 28 MHz MC68020 processor. Boxed with instructions: £25. 85 Mb 2.5" HD: £15. ☎ Alan on Camberley 01276 600119.

● **A1200, 18Mb RAM,** 850Mb HD, 4x CD-ROM, second floppy, 14.4k fax/modem, mini tower, 200w power supply. Optical mouse and over 200 disks: £500 ono. Will consider a swap. Kevin Pearson, 50 King George Rd, Loughborough, Leicestershire, LE11 2PA.

● **A1200 with 520Mb hard drive,** CD[32] joypad and software collection. Contact: T.S. Sinha, 16 Fontmell Road, Broadstone, Dorset, BH18, 8NW.

● **Monkey Island 2,** Simon The Sorcerer, Wizkid, UFO Enemy Unkown, Legends: £8 each. Indy Last Crusade, Maniac Mansion, Crystal Kingdom, Dizzy, Curse of Enchantia, Lemmings, Lotus III: £5 each. ☎ Alexi 0161 3049471.

● **A1200 memory** expansion 4Mb with 33MHz FPU: £30. Email John at ad@acci.demon.co.uk.

● **For sale SCSI Controller** with HD + 2Mb RAM (30 pin SIMM) for big box Amiga incl. software & manuals (£55). SUPRA RAM card with 2MB RAM (30 pin SIMMS) for A1500/A2000 incl. software & manuals (£35). Contact Paul Brown, 115 Springfield Gardens, Upminster, ESSEX, RM14 3ET. ☎ Office 0171 940 9421, Fax Office 0171 940 9500, ☎ Home 01708 22 57 88.

● **For sale Squirrel** SCSI interface 3 months old £45 Network 2 (Sernet) cable + CD £25 CD32 + 5 games £5 All include P&P ☎ (Edinburgh) 0131 666 0014, Mr. R.F. Baird.

Wanted

● **Dungeon Master,** Monkey Island, Fate of Atlantis (adventure) and Dungeon Master +CSB pack (all boxed with manual). Good price paid. Write to: Franck Grasset, 12 Station Terrace, Caerphilly CF83 1HD.

● **Looking for A1200 games,** especially Monkey Island II. ☎ James 0181 6602311 (after 6pm).

● **Pole Position by Ascom** for A1200 or other Grand Prix Manager. ☎ 01733 706152.

● **Looking for** original copies of Dragon's Lair Singe's Castle and Dragon's Lair Timewarp. Please call Mr Clark on ☎ 01225 355499.

● **Amiga 1200 and 500+** contacts wanted. Contact David Csoma, 90 Hollowfield Coulby , Newham Middlesbrough, Cleveland TS8 ORS.

● **I am desperate to find** a copy of Akira on disk. Can anyone help? M. Woolley, 262 Citadel Road, Plymouth, PL1 2PY, ☎ 01752 229181.

● **Wanted WWF games** and WWF wrestling, good mags, music and WCW Amiga games. Tel. Nick ☎ 01202 304569 and Theme Park for the A1200 wanted. Will pay up to £6. WWF Fan.

● **A1500 Hardware wanted,** keyboard, accelerator, graphics cards, etc. Will buy or swap for CD[32], SX-1, 120Mb HD, 6 meg RAM, keyboard, disk drive or sell for £200. ☎ 01364 652250 after 7pm, Kevin.

● **Desperate for Amiga Format CD** of Cinema 4D. Could only obtain mag with floppy. Need FPU version with extras. John Hughes ☎ 01980 863115.

● **I am desperate to find** a game called Rorke's Drift. Does anyone know where I can get a copy new, s/h or swap. ☎ 01744 733984 anytime, ask for Les.

● **Champions, Death Knights,** and Dark Queen of Krynn RPGs by SSI. Times of Lore by Origin. Originals only. Contact Andy Tang, 155 Packington Square Estate, London, N1 7UB. ☎ 0171 3540494 (evenings).

● **V-Lab Motion card** with software. Cash available within reason. Can arrange collection within the EEC. ☎ 01202 470615 after 5.30 pm. I also want to find other (non-gaming) Amiga users in Dorset.

● **PROTEXT for Amiga**. Any version will do but would prefer 6.0 or 6.5. Will even pay for copy. Also, Pirates Gold. ☎ Mike Caufield 01792 894047

● **Alien 3, Flight of the Intruder,** Heroquest 1 and 2. Must be complete. Reasonable price paid. Please write to Simon Briggs, 10 Wyndham Road, Taunton, Somerset, TA2 6DX.

● **New TDK 3.5",** double density disks. Anyone know of a shop or supplier who could help? Require around 200. ☎ Richard on 01432 350534.

● **Used A1200** or A1200 system wanted in United States. Please call with system description and asking price. Craig Lambert 47, Forest Drive, Negaunee, Michigan 49866. ☎ (906) 475 2843.

● **Wanted hard drive,** CD Rom drive for Amiga 1200. Reasonable price from someone in Tayside in Scotland. Contact Richard Bishop, 7 Union, Terrace, Dundee, DD3 6JO.

● **Programmers and musicians** wanted to produce new demos, games and applications. Write to Spencer Jarvis, 44 Brampton Close, Corringham, Essex, SS1 77NR enclosing examples of your work or e-mail Spencer@thurrock.maplin.co.uk.

● **Turbo Pascal for Amiga 1200.** Recent version preferred but anything considered. Will pay postage. ☎ Rob Williams after 5pm on 01568 708477.

● **The Secret of Monkey Island 2**. Pay reasonable price. ☎ (Edinburgh) 0131 666 0014, Mr. R.F. Baird.

● **Please, please, PLEASE** can you print this letter before I go criminally insane? Is there anybody out there who still has the idiot's guide to completing Monkey Island (yes, the first one) which they could send me? If they have the second one they can send that too, although I haven't started it yet due to not being able to finish the first. Carly Tinckler, 46 Jamaica Road, Malvern, Worcs. WR14 1TU.

● **Wanted A500 compatible** versions of King's Quest 4,5,6. Simon the Sorceror 2, Colonel's Bequest, Rise of the Dragon, PGA European Tour and Beneath a Steel Sky. Contact Wayne, 18 Beech Avenue, East Leaite, Loughborough, Leics, LE12 6NU.

Personal

● **Amiga Contacts wanted.** Who are interested in swapping games, demos, utilities etc., any age, if you are interested write to Shane Hassam, 80 Shearsmith House, Cable Street, Stepney, London E1.

● **Anyone with AMOS** programming knowledge or help. Also anyone interested in being Amiga contacts. Please write to Friends of Amiga, 102a King Street, Alfreton, Derbyshire, DE55 7DD, England.

User Groups

● **Gamers, programmers, artists,** and anyone else needed for a new London user group to swap PD and access each other's skills and hardware (such as scanners, CD-ROM, etc). ☎ Dennis 0181 4526802.

Coverdisk



AMIGA FORMAT

Roll up, roll up! It's time for ***AFCD21*** – the beginning of a new era! **Ben Vost** examines the hype behind *Amiga Format's* latest CD title.

Do believe the hype! *Amiga Format's AFCD21* is probably the best CD ever made for the Amiga platform. Not only is it chock full of excellent utilities, games and reader contributions, it also features some of the best CD navigation tools ever invented. Here's a short list of just some of the brilliance that makes up our disk this month:

READER REQUESTS

You always ask us for stuff for the CD and while we've always been happy to comply, usually the things you ask for simply get put in what would be their normal locations on the CD. Well, no more. To highlight those people who've particularly asked us for something on the CD we now have a brand new drawer in Look Here 1st! called Reader Requests – if you ask for a program, that's where it'll be! This month, we had two requests from readers: *OptyCDPlayer* and anything to do with stitching design on the Amiga. *OptyCDPlayer* was easy peasy, but obviously finding stitching programs took us a little extra time. There was once a commercial cross stitching program for the Amiga, but we haven't seen it for a while. Hopefully *Stitchery* should prove adequate for all your needs!



I never knew that Brad Schenck – better known for his baroque *Imagine* renders in the late eighties – was a cross-stitching fan!

Genetic Species

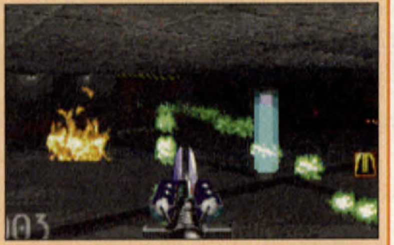
Exclusive • Exclusive • Exclusive

AFCD21:-ScreenPlay-/Commercial/GeneticSpecies

We've got another Vulcan exclusive this month with an almost final demo of the forthcoming *Genetic Species*. This baby looks darn good and it really flies, especially on a graphics card! The range of weapons is the finest yet for an Amiga first-person perspective shoot-em-up and we're really looking forward to getting a final review copy soon. Stay tuned, you'll hear it here first!



It's got the looks, it's got the moves, it's *Genetic Species* and it's exclusive to *AF*.



Well, it's got big guns and snazzy explosions so that's a good start. Looks like the Vulcan boys done good again...

STOP-PRESS-STOP-PRESS-STOP-PRESS-STOP-PRESS-STOP

Blade

AFCD21:-ScreenPlay-/Commercial/Blade

We've also got a cracking demo of Alive Media Soft's first commercial release. It's a 50 level RPG-type isometric game with loads of features, including different character types, spells and so on. We haven't seen it ourselves because it only arrived just in time to get on the CD, so you'll have to find out for yourself just how good it is!





Choose your character (above), then I reckon you should go and slay the nasty-looking bloke on the left, in Alive Media Soft's top demo.

NEW *AFCD* SURVEY

We've had over 4000 replies to our original survey. In response to this, we've changed the CD around, we've added new features like *AFCDFind* and *AFCDPrefs* and we've put stuff on the disc that you, the punters, have asked for. About the only thing we haven't done so far is changed over to *NewIcons*, but since a slender majority still seem to prefer *MagicWB icons*, or thinks we should concentrate on more serious issues, we probably won't.

Anyway, some of the questions in the survey were getting a bit tired. Some of you may never have heard our ground-breaking Toulouse footage and yet you were asked to comment on it, so there's a new survey now. It concentrates a bit more on stuff that is unique to our CD and will be changed more regularly than before. It's now no longer an AmigaGuide document so it should print out nicely or fit into an email easier than before and, as before, we don't want your names or other details. This is not a survey to find out more

ReaderStuff

We've got sooo much ReaderStuff on our disc this month that it would probably take you until the New Year just to look at it all. Having said that, we





Aliens abound in this excellent extraterrestrial extravaganza.



The top banana in a great bunch of ReaderStuff this month is the smashing *UFO Enemy Unclothed*.

do have a clear winner for the best reader contribution this month, which goes to Simon Hitchen for his superb *UFO Enemy Unclothed* game. This doesn't mean that the rest of the submissions we got were dross – far from it, as we had some of the best work we've ever had. Here's a run-down:

BenchPress

AFCD21:-ReaderStuff-/Gareth_Knight

Gareth's excellent Workbench online help guide is nicely written and acts as a handy reference instead of having to go and find your manuals again. To top it off, it has a great name!

CDPlay

AFCD21:-ReaderStuff-/Stephen_Haywood

Stephen's written himself an audio CD-ROM player for his Amiga and he's keen on sharing it with everyone else too. This version is quite limited with only a four minute play time and two interfaces to access all the commands, but the registration is cheap and the program looks nice.

SWOSEditor

AFCD21:-ReaderStuff-/Mark_Green

Mark's gone and made his own SWOS editor. It's not the same as the one we ran on our coverdisk a while back (the one that needed MUI). This one has some features which that didn't, and is also lacking some features of SWOSed. Mark reckons you should use 'em both, which is nice of him.

AnimatED

AFCD21_b1:-ReaderStuff-/Marco_Vigelius

If you used the reader award-winning *AnimatED* on previous *AFCDs*, you'll be pleased to know that Marco has done a new version for us (and everyone else!). This version plays HAM animations, fixes a few bugs and should be used by anyone with a bent for cartoon making.

about your spending patterns or what sort of washing powder you prefer. It's simply there so we can give you a better service by making our CD better.

PPC SOFTWARE

AFCD21:-Seriously_Amiga-/Commercial/Wildfire_PPC

If you've already gone and got yourself a Phase 5 PowerPC board (without waiting for our definitive review, you naughty thing!) then you'll be hunting around for something you can do with all that massive processing power once you've played with the *Voxelspace* demo and generated Mandelbrot sets until they came out of your ears.

Here's the first piece of commercial/shareware software written especially for the board – *Wildfire*. We've run this program on our disc before. It's an image processor and ADO generator, but now you should find that instead of having to continually make tea while it renders its frames, they'll be done in a jiffy thanks to that tiny chip under the massive heat sink on your card.

ARCADE GAMES

AFCD21:-In_the_Mag-/Emulation/Arcade

Centipede? Ghosts and Goblins? Bubble Bobble? Aaah! Where are they now? The answer can be on your machine if you run MAME – the Multi Arcade Machine Emulator, originally by that well-known Amiga author Nicola Salmoria (NickPrefs, et al) and currently updated by Mirko Buffoni. You'll need a speedy machine to get the best from these ancient games and preferably a graphics card. It is worth it though, especially as you'll be able to hit '3' on the keyboard, rather than fumbling around in your pockets for another 10 pence piece down at the local arcade.



Enjoy some classic retro gaming, thanks to the Multi Arcade Machine Emulator.

At your fingertips

As usual, we have all manners of bits and bobs on the CD. Here's a smattering of the really tasty ones:

NewIcons 4.1 Update

AFCD21:-Seriously_Amiga-/Shareware/Workbench/NewIconsV4.1 Update

You'll need to have installed NewIcons v4 from last month's CD to be able to use this update since it relies on you already having a full installation of v4. This version fixes a few bugs that were present in the initial release and changes some of the icons. Otherwise it is completely identical to the previous version.

Canondisk Update

AFCD21:-Seriously_Amiga-/Commercial/CanonDisk_V3.97b

If you have a Canon printer and you've been using not only the Wolf Faust printer drivers but also the cut-down version of Studio II called CanonStudio, you'll want to upgrade your package using this. If you're intending to buy one of the new Canon printers, such as the new BJC4xxxSeries with their "photo ink" facilities, then Canon Studio is also ideal for you.

Gareth Murfin

AFCD21_b1:-ReaderStuff-/Gareth_MurfinAFCD21_b1:Look_here_1st!+/AF_on_the_web

It's not often we actually just put someone's name in this section of the CD pages, but Gaz has earned it this month. Not only has he sent us a whole bundle of his program (which are all in the ReaderStuff drawer), but he's also sent us his mammoth website where you can see what he looks like, get more info on his AmIRC scripts and much more. Good on yer Gaz, keep up the good work!

SWOSed

AFCD21_b1:-ScreenPlay-/Utilities/SWOSEd

In case you were confused by my reference to two different SWOS editors, you'll find the "other" one here. This is the editor that needs MUI, which you can install from our CD if you go into the AFCD21_b1:MUI/MUI_Install drawer. As Mark Green says, it's best if you use both of when you want to update your favourite team, so here you go.

Web editors

AFCD21_b1:-Seriously_Amiga-/Shareware/Comms/WWW/MetalWEB
AFCD21_b1:-Seriously_Amiga-/Shareware/Comms/WWW/WebDesign

If you fancy turning your hand to HTML, but you don't like the idea of having to remember all those commands, why not try these two editors? WebDesign is by Larry

Continued ➡

At your fingertips

McGahey and is a tribute to the power of CanDO, while MetalWeb is a WYSIWYGMUI-based editor which is able to support the easy placement of frames and much more.



Easy peasy HTMelly courtesy of MetalWeb.

New Zip DOSDrivers

AFCD21_b1:-Seriously_Amiga-/Shareware/Hardware/NewZipMount

If you've got a Zip drive at home, as so many Amiga users seem to these days, you may well be interested in this collection of mount lists for your drive that are apparently much truer to the Zip than the ones presented by HiSoft. We haven't tried them here, so we can't be totally sure, but you could always give them a go.

Digital Genealogy

AFCD21_b1:-Seriously_Amiga-/Shareware/Misc/Origins_Demo
AFCD21_b1:-Seriously_Amiga-/Shareware/Misc/GenTree

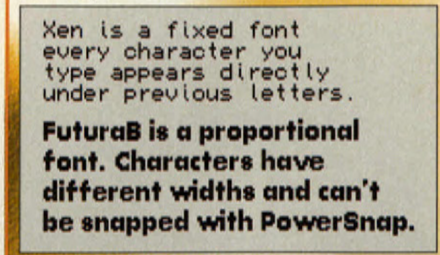
If you've a hankering to enter details about your family's history into a database so you can see just how second cousin Myrtle is related to uncle four-times-removed Oswald, then these two programs might be right up your alley, or tree perhaps. They are both quite old, the companies that made them may no longer exist and they really should be in the Reader Requests drawer since that's why we put them on the CD, but you can at least try them.

GenTree also has the distinction of being another CanDO project, so if you like it, you might consider dusting off *AFCD2* and getting to grips with CanDO off it. And no, we don't have back issues that extend that far back.

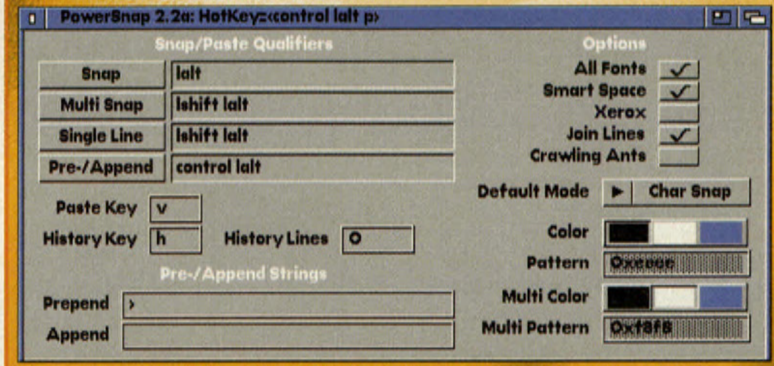
SPOTLIGHT ON A HANDY TOOL!

POWERSNAP

There are times when I really wish the Amiga had a GUI a bit more like the Mac's. With the Mac you can usually 'swipe' text on the screen to put it in the copy buffer so you can paste in into your application. However, if you are using fixed fonts (not proportional ones) you can achieve the same effect, and even better it, with *PowerSnap*. Install it on your machine and choose a keyboard modifier as your Snap key and you'll soon be grabbing filenames, or pulling text from text files so that you can paste it in elsewhere with ease. As I said, it only works on non-proportional fonts – that is to say ones where the width of an 'I' is the same as a 'W', fonts like Topaz and Xen – but even with this limitation I wouldn't be without it.



Here you can easily see the difference between fixed and proportionally spaced fonts.



You can choose which keys start off the PowerSnap process and it will also allow you to snap some text and then add some more to it without overwriting your copy buffer.

EMC CLIPART!

AFCD21:-Seriously_Amiga-/Commercial/EMC_Phase3

EMComputergraphic, those lovely people who put our CD together every month, have got a special offer for you this Christmas. They've given us all the IFF Christmas clipart from Phase 3 and are offering you the chance to actually get the rest of the clipart, photos and fonts on Phase 3 at a special price for the festive season. Not only that but you can get special pricing on the complete range of EMC CDs by quoting the text you'll find in the EMC_CD.guide file in the drawer.

special offer • special offer • special offer • AF



READER WARRANT

Every reader submission to the *AFCD* must have a reader warrant attached to the accompanying AF_Readme file. You can type it in off this page or take it from the various locations it is stored in on the CD (Look_here_1st!, ReaderStuff etc). A last reminder: this text must be in your AF_ReadMe, or your submission won't go on the CD – it's Future policy.

In respect of all material which forms my reader contribution to Future Publishing's Amiga Format I hereby warrant that:-
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(2) the material does not contain any material which is defamatory, obscene or indecent and is exempt from classification under the Video Recordings Act 1984;
(3) that there are no legal claims against the material provided;
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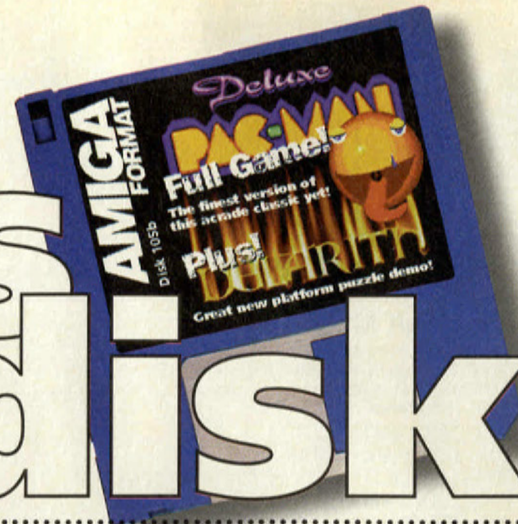
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email: amformat@futurenet.co.uk
("Coverdisc" in the subject line).

Please note that the helpline staff provide assistance with technical problems directly related to the CD and cannot provide training on the software or hardware in general.

Games disk

AMIGA FORMAT





Not one but two games this month, as David Taylor introduces the best Pacman clone ever in its entirety as well as a huge demo of a new platform game.







Float round a maze eating pills, pieces of fruit and after a special munchy pill, eat your enemies, the cute-looking ghosts.

An absolute classic. You'll keep playing it until your eyeballs dry out and your hands drop off. Superb.

Full Game

Deluxe Pacman

There can't actually be anyone out there who doesn't know what Pacman is. It has been loved worldwide for years and spawned many an (inferior) sequel. This version is the full final release of the Amiga's finest Pacman clone. In case you can't remember the aim (!), all you need to do is guide the yellow hero around each maze. When you steer him one way he will continue moving in that direction until you change it or he hits a wall. The idea is to eat up all the dots on the screen without getting eaten by the ghosts that chase you.

You're not powerless though, because if you eat one of the special pills which are placed around the maze then you'll be able to eat the ghosts. This sends them back to the middle where they wait to be re-incarnated before starting to wander around again. Still, at least you get a brief respite. If you manage to eat more than one ghost in a single go with a super pill then your bonus score will increase accordingly.

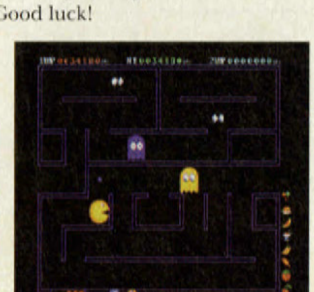
If you are getting trapped by ghosts but cannot get to a pill, you may be able to escape to the other side of the screen by nipping through the gateway on the side of the maze. This brings you out through the opposite gate. Ghosts cannot follow you along this route.

Along your travels you'll also see bonuses appear. Eat these if you can, but don't let them distract you as you'll end up getting caught by the ghosts.

To complete a level, you need to clear the maze by eating all the pills. You will then go straight onto the next level. Good luck!

Not really Deluxe, more like an exact copy of the original. Which is more than enough for us here at *AF*.





CONTROLS

JOYSTICK

Up = move Pacman up
Left = move Pacman left
Right = move Pacman right
Down = move Pacman down
Firebutton to shoot when Pacman has the gun.

KEYBOARD

For right-handed people, the following keys can be used...
Up = [8] (Keypad)/ [P] Cursor Up
Left = [4] (Keypad) / [L] Cursor Left
Right = [6] (Keypad) / ['] Cursor Right
Down = [2] (Keypad) / [.] Cursor Down
and for left-handed people, the following keys can be used...
Up = [W]
Left = [A]
Right = [D]
Down = [X]
Press [SPACE] to shoot when Pacman has the gun.

OTHER KEYS AND THEIR ACTIONS...

[F1]	Starts one player game. This is the default mode.
[F2]	Starts two players game.
[F10]	Pauses the game.
[1]	Beginners game mode (really slow!)
[2]	Normal game mode.
[3]	Expert game mode.
[E]	Toggle music and sound effects.
[H]	Hall Of Fame.
[A]	About the game.
[ESC]	Quit the game.
[SPACE]	Starts the game, same as button on joystick.
[TAB]	Toggle between NTSC/PAL (50/60Hz) mode. You must have the fat Agnus chip for this to work!

EXTRAS AND GOODIES

Here's a list of the possible extras you can collect in the mazes to help you out.

E-X-T-R-A – Collect all five letters and you will receive an extra life and move onto the bonus levels.
SPEED UP – Two varieties of speed up are available, normal and hyper. Amazingly they both make you go faster!
SHIELD – Protects the yellow hero from the ghosts who cannot kill him when he has it.
GLUE – Slows down the ghosts so they can't run as fast.
FREEZE – Freezes the ghosts and makes them stay still. This is only temporary, so make a dash for it.
DYNAMITE – Makes the ghosts explode and gives you 5000 points for each ghost.
X2 – Multiplies every point you score by two.
X5 – Multiplies every point you score by five.
DIAMOND – Turns all the remaining pills into high scoring diamonds for a short time.
PRESENT – Gets you a random high score for each pill.
CLOCK – Extends the time for each tool that you use.
EXTRA LEVEL – Sends you to an extra level. You cannot lose lives on the extra level, but if you can clear an extra level without being caught, you will get 50000 points.
JUMP – Sends you to a random level.
GUN – Gives the yellow man fire power to blow away the ghosts and score a random amount for each ghost he knocks off.

Delarith

This is a large demo of a new platform game. It requires a joystick and the aim of the game is simple. Collect all the bags of cash from each level, but beware of the bombs on the floor and the weapons that fly across the screen. In order to navigate your way around the levels you need to use the teleporters on each floor.

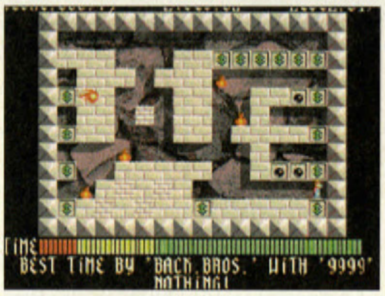
Walk onto one and then push the joystick up and you will go up a level, push down and you move down one.

In order to successfully navigate a level you'll need to work out a way of moving around without having to go over a bomb, so there is an element of puzzle solving. You'll have to think quickly because you're working against the clock and you're also likely to get an arrow up the posterior if you stay still for too long. You can walk off the ends of levels and drop down onto the one below with impunity.

Note that some of the tiles you walk on are fragile and get worn away as you cross them. You will need to make sure that they have enough power left in them to support you if you need to keep walking over them. If you destroy a tile and then need to cross it to get back, you'll be stuck.

When you've collected all the bags of treasure, you'll see a key appear somewhere on the level. You will need to collect it in order to complete that level and move onto the next one.

More details of this game can be found in the guide on the disk.



Platform puzzling a-plenty, as you try to pilfer loads of cash.

GUIDE TO DELARITH EXTRAS

GOLD COIN – Doubles all game points.
SILVER COIN – Gives 500 bonus points.
HERO – Gains you an extra life.
STOP SIGN — freezes enemies for a while.
SKULL – Kills and disables enemies.
SHIELD – Protects the hero from enemies.
FROZEN HERO – Freezes the hero for a while then gives a shield. You'll have earned it.
GLITTERS – Teleports hero to somewhere in the level.
KEY – Makes the exit key appear.
ARROW 1 – Speed up the game speed.
ARROW 2 – Slow down the game speed.
GOLDEN CLOCK – Stops the timer for a while giving you extra time to complete the level.
SILVER CLOCK – Resets timer – even more time to finish the level.
BLACK SPHERE – Turn the lights off for a while so you'll be playing blind, but gives you a shield when the lights turn back on.

HARD DRIVE USERS

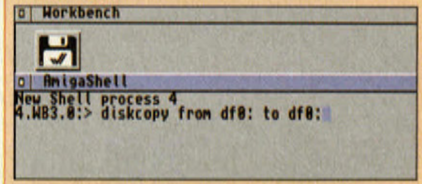
This month the coverdisks have had to be archived in order to fit all this amazing stuff on. The games disk boots and can unpack the games to either separate floppy disks or to a hard drive (simply choose the game you want and insert a disk when asked; everything else is done automatically for you). The disks don't have to be formatted, but will be wiped in order to fit the games on, so make sure the spare disks you use don't have anything important on them. When the games have been unpacked onto floppies, you can boot the new floppies to use the games. If you installed to hard drive, you can load the game directly from there. Pacman may need a library installing if you don't already have it, but it is included - see the Pacman guide that accompanies the game for more information.

BACKING UP YOUR COVERDISK

Copying your Coverdisk is really very simple. Just follow the stages below...

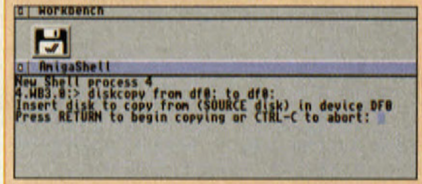


1 Boot up with your Workbench disk and find the Shell icon, in your system drawer. Double-click on this to go into the Shell.

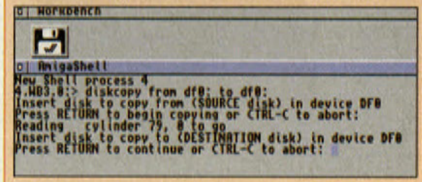


2 Type in the following line (with a zero, not the letter O), taking care to put the spaces in the correct places:

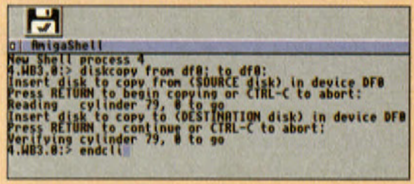
DISKCOPY FROM DF0: TO DF0:



3 When asked for the Source disk, insert your write-protected Coverdisk and press Return. All of the info on this disk will then be copied from the disk into memory.



4 Once your Amiga has read the info, it will ask for the Destination disk. Insert it and press Return. All information on this disk will be destroyed.



5 On an unexpanded machine, the Amiga may ask for the source disk again, because it copies in chunks. Finally, type endcli to close down the Shell.

DISK NOT WORKING?

We take every care to test the Coverdisk software, but Future Publishing cannot accept any responsibility for any damage occurring during its use. If your disk is faulty, send it back, with 2x26p stamps and an SAE to:

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11 Edward Street
Bradford • BD4 7BH

If there is a manufacturing error then the stamps will be returned with a replacement disk.

Serious AMIGA FORMAT disk





This month **David Taylor** introduces a set of packages that can give your Workbench a whole new look. Culminating with ***New Icons 4***, you've no excuse to be left with that boring grey any longer!

Full Package

New Icons 4



The New Icon 4 package adds in a set of updated icons for all your system files and gives Workbench a 90s style facelift.

There's no denying that the old Workbench is starting to look a little dated, but why would you want to get rid of it when it's so easy to use and yet so powerful? What you need is a way to upgrade the whole look of your system without having to manually re-work every drawer and without taking up processor power or RAM just for the sake of a bit of colour. You guessed it. What you need is New Icons 4.

New Icons is more than just a collection of icons, it's a revolution for your Workbench. Normally Workbench can only display 8-colour icons, but New Icons installs a patch that allows for full 256-colour icons. This patch is automatically installed when you install the package, as is a set of utilities and extras for improving Workbench.

One of these extras is the DefIcon patch. This spots files that don't have icons attached and adds a default icon look. For example, if you have an IFF which doesn't have an icon, it will add a picture icon look under Workbench.

Normally if you double click on a file in Workbench that doesn't have an icon, Workbench simply offers to execute it, which of course it can't if it's a data file. With DefIcon, Workbench opens the data file as a command parameter to whatever you have set as the default tool for that file type in the def icon stored in envarc:.

Basically, this means that when you create an icon for a text file, it is normally set to be associated with multiview. When you double click on a text file that doesn't have an icon in Workbench, the Execute command window will open with "Multiview textfile". You just click on OK and the file is opened in the default viewer.

Because of the way Workbench operates, you cannot make it treat files without icons as if they had them, but this patch does the next best thing.

If the next best thing isn't good enough, there is a utility installed called CreateDefaultIcon. This will be installed to your Utilities drawer. If you have a file that doesn't have an icon, but you want it to have one rather than use the fake icon method employed by DefIcon, use this program.

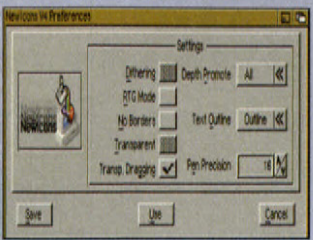
You should left click on the CreateDefaultIcon program once, then



Look at the new look given to Workbench, including the cool new icons for the drives on the left, but the New Icons patch offers more than simple icons.

PREFERENCES





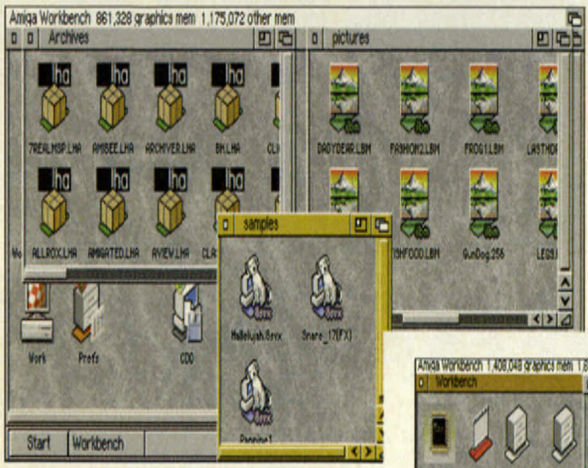
There are preferences programs for both Class Act and New Icons 4. They can both be found in the Prefs drawer and you can alter the way certain interfaces look using ClassAct. The New Icons preferences allows you to change to having transparent backgrounds and dragging and, as you can see from the pictures on these pages, Workbench can look like a very different place when you've finished. The help file for New Icons gives you more details, but you should just try it all out for yourself.

Use the Preferences to customise your Amiga's use of New Icons 4 and Class Act to create a whole new look.

hold down shift and click on the files you want to make an icon for (you can do multiple files at once), double clicking on the last file. The fake icons will be turned into real icons as per the parameters defined in the default icons for that filetype. Now when you double click, the program for that data file will open the file – use Icon/Information menu from Workbench to make any changes to the default tool.

There is also a utility called UpdateDrawers that allows you to choose the source icon from the icons you have available and add it to a drawer and all sub-directories so that the drawers have the new icon. This is a good way to quickly update any new disks or floppies that need to have the new look.

Most immediately of course, New



The DefIcon patch that comes as part of New Icons 4 allows you to double click on files that don't even have icons - believe it or not, none of these files have icons!

Icons 4 makes your system look a whole sight better and it does it with the minimum of fuss or effort on your part.

However, to install it you do need to follow these guidelines in this order. If you don't do this, you will get errors.

1) The first thing you need to do is make sure that you have the latest version of the Installer utility on your system as the New Icons setup will make use of it. Open a CLI and type "version installer <return>". (If you don't have installer in your path, you will need to enter the pathname too, such as "dh1:tools/installer".) If the result printed back is lower than 43.3, then you need the new Installer. Don't worry, because it is on this coverdisk.

When you unpacked this disk (incidentally, you will need both the serious and the games disk to unpack this set of utilities this month as the archive spans both disks in order to fit everything on), you will have ended up with one folder called AF105_Utilities.

In here you'll find the Installer43_3 drawer. The easiest way to copy this is to type into the CLI. We'll assume that you installed your coverdisk onto a partition called Work in a drawer called Temp, but change this in your CLI if you unpacked to a different place. Type:

> *...New Icons 4 makes your system look a whole sight better and it does it with the minimum of fuss...*

```
"copy
dh1:temp/af105_utilities/inst
aller43_3/installer C:
<return>".
```

2) Now you need to make sure you have Class Act 2 installed. If you don't, the Class Act Demo is included on the disk and you can install the classes, which are what you need, by double clicking on the Install_Classes icon. This installs a set of BOOPSI classes, that are the building blocks for several programs, including New Icons 4.

3) You can now install the New Icons 4 package. Open the New Icons drawer and double click on the install icon. The installer script allows you to choose where you want to install the utilities as well. Additionally, it can change the icon for any drives you want, and will also update all drawer icons for a partition or drive.

When you install the package onto your drive, it scans for any programs that it has icons for and will update them. So all your standard system ones like Utilities and Preference programs are updated, as are the default icons, which includes the ones which are used by floppy disks.



As you can see when you have selected the preferences to your taste, Workbench can look a very different place.

NEW WORKBENCH UTILITIES

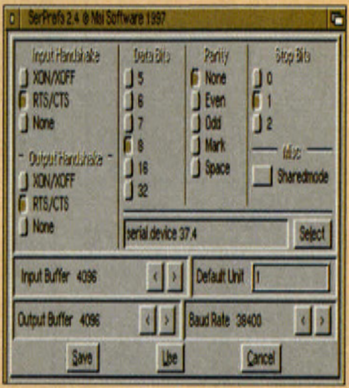
As well as this new look for Workbench, we've also included a set of new utilities for making up a more modern Workbench.

MAGIC EXCHANGE

This new version of Exchange offers greater control over commodities allowing you to open/close them all, disable or kill them and see more information, all through an easy to use interface. The program uses MUI 3 which you must have installed in order to use it.

SERIAL PREFERENCES

This is an update to the serial preferences that comes with Workbench. This allows you to configure the use of the serial port far more than the outdated original. You can even set what serial device the system will use to operate the port.



The new serial preferences utility supplied on the disk is only one of the three great add-ons to Workbench included.

TT MANAGER

This ToolType Manager is not actually for use with New Icons, but if for some reason you don't want New Icons you can use this to make dealing with icon tooltypes easier. It patches itself to the Tools menu in Workbench and you can select an icon and then choose this program and it will give you an easier way to work than the standard Icon Information. You can install this package with New Icons, but it may not work with actual New Icons, although it will work with any other icons you come across.

You can update more than one partition or drive. Simply let it update the first one, and then choose the option to do another drive and update the second.

You now have the fully functioning new look Workbench.

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Colour Originators – Phoenix Repro
Printed in the UK by GSM and Southern Print

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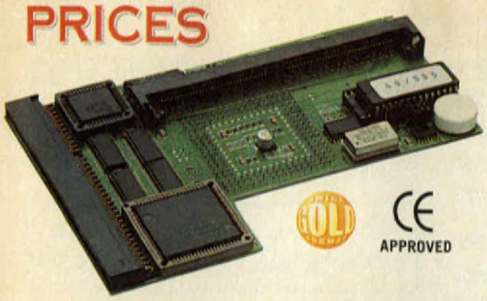
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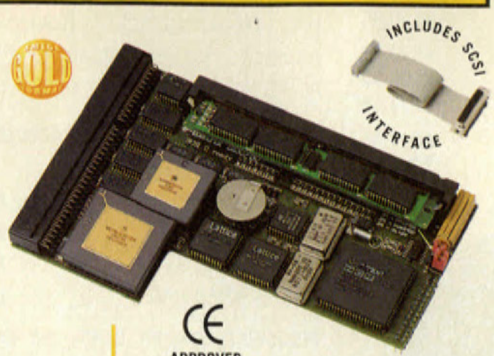
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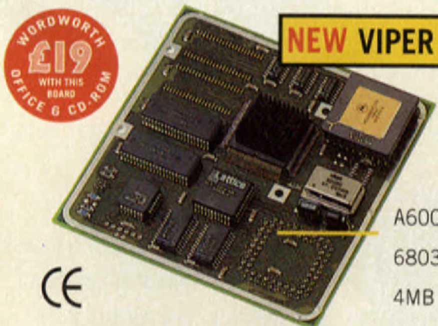
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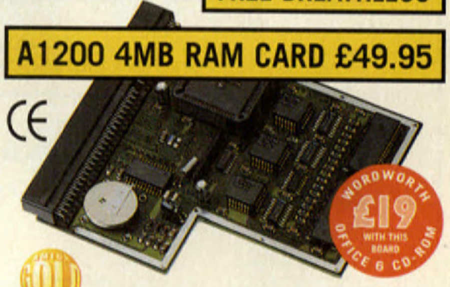
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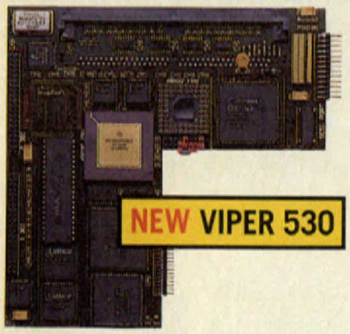


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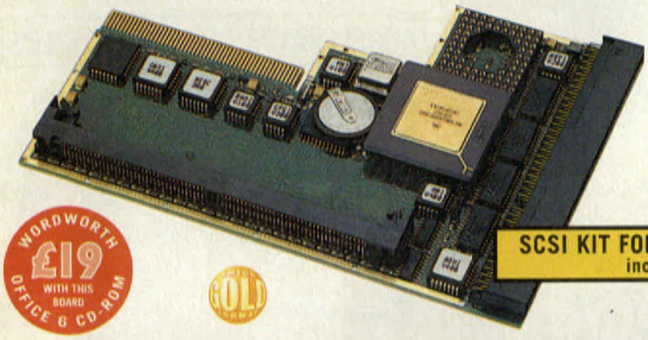
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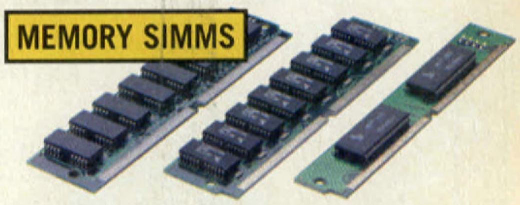
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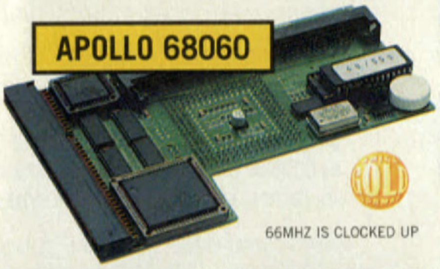


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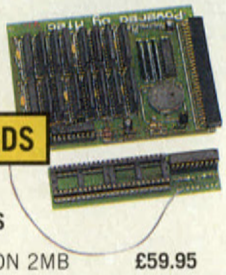


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